



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:

make snowflake decorations through evaporation!



Supplies Required:

2-3 cups of salt
Mason jar or large cup
Pipe cleaners
Clothes pin

Video

What is the water cycle? <https://tinyurl.com/mv3c8t5>

Overview

A very important step in the water cycle is evaporation. This is the step that prevents our planet from being flooded and creates moisture in the air. Evaporation is a process where liquids change to a gas or vapor. Water changes to a vapor or steam from the energy created when molecules bounce into one another because they're heated up. If water has salt in it, like when you sweat or the ocean, when the water evaporates, it leaves behind the salt. This is why your skin tastes salty after a workout, or after you swim in the sea. The same process happens in this experiment! When the jar of saltwater is placed in a sunny spot, the sun warms up the water, causing it to evaporate. This leaves behind the salt on the pipe cleaner, and creates your snowflake!



Instructions

1. If you are completing this experiment with materials provided to you in your STEMkit, start by grabbing an extra bowl or cup you have at home and dump the salt in the mason jar into your extra container. Set it aside.
2. Use your now empty mason jar to collect and dump about 3 jars-worth of water into a pot. With adult supervision, turn the stove on high to bring the water to a boil.
3. Once the water boils, pour in the salt that you set aside. Allow the water to boil until crystals start to form on the surface of the water. If it boils for several minutes and no crystals form, add more salt.
4. Take the pot off the stove. While the water is cooling, design your snowflake using the pipe cleaners. Make sure the snowflake can fit easily through the mouth of each jar.
5. When the snowflake is designed, attach a pipe cleaner hanger to the top of your snowflake so you can suspend it in the mason jar.
6. Suspend the snowflake in the saltwater using a clothespin to hold them in place. Let the snowflake sit in a sunny window for 2-3 days.
7. After 2-3 days, remove your snowflake and let them dry. Your salt crystal snowflake is ready!

Additional Resources

Think About It! What do you think will happen to the salt water overnight? Why do you think we placed the jars near a sunny window?

1. Try another experiment evaporating water from salt: <https://tinyurl.com/y6e34srm>
2. How does water evaporate? <https://tinyurl.com/yy282bb5>
3. Why do we sweat? <https://tinyurl.com/y92uqwf9>

Share It Out

Share on social media: Take before and after photos of your experiment. Explain to your family and friends how the snowflakes were created by evaporation. Use the hashtags:

#SaltSnowflakes
#ProjectExploration
#StemAtHome

For more activities like this one, go to www.projectexploration.org/stemhome. If you're interested in learning more about Project Exploration and our free events, programs, and activities, please complete our interest form and a staff member will be in touch with you: www.projectexploration.org/interest.



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

www.projectexploration.org