



# Make a Flake

*Make a snowflake model based on images of actual snowflakes.*

## What you'll need:

- Clear plastic bag
- A snowflake picture
- Fabric glue in a squeeze bottle with a narrow opening
- White, pearl, or silver glitter (or use glue glitter instead of fabric glue and glitter.)

## Directions:

1. Find a snowflake picture that you like on the Caltech SnowCrystals web site at: <http://www.its.caltech.edu/~atomic/snowcrystals/>
2. Print the snowflake image. Make sure it is approximately a 3"x3" square.
3. Place your snowflake image in a clear plastic bag.
4. Using fabric glue, trace the snowflake's lines and contours, and/or fill it in entirely with the glue.
5. Once the snowflake pattern has been traced, sprinkle glitter on top of the fabric-glue tracing.
6. Set aside and let dry (overnight is best).
7. Peel the dried snowflake from the bag and showcase it in a window, on a tree, on your refrigerator, or anywhere you'd like!

## Ask yourself the following questions:

1. How do snowflakes form? What makes them look as they do?
2. What was the atmosphere like in order for this particular snowflake to form? Where might such weather conditions exist?
3. How does my snowflake differ from other snowflakes that my classmates made? In nature, what factors would be responsible for these variations?

## Science background:

In winter, snowflakes form clouds where the temperature is below freezing. Small ice crystals grow into symmetrical shapes in the air. Sometimes the shapes are less symmetrical and more irregular. The shape of a snowflake depends on weather conditions - specifically the temperature and amount of water vapor in the air at the time the snowflake forms. Snowflake shapes range from simple prisms that are made of a single ice crystal to hundreds of ice crystals that radiate from a center point. When there is little water vapor in the air, snowflakes tend to form more simple shapes. When air is humid, more elaborate snowflakes are able to grow.

## Learn more online!

- **Snowflakes** <https://spark.ucar.edu/shortcontent/snowflakes>
- **Snowstorms** <https://spark.ucar.edu/shortcontent/snowstorms>
- **Is Snow White?** <https://spark.ucar.edu/longcontent/snow-white-maybe-or-maybe-not>
- **Blizzards** <https://spark.ucar.edu/shortcontent/blizzards>
- **Icy Winter Weather** <https://spark.ucar.edu/shortcontent/icy-winter-weather>
- **SnowCrystals** <http://www.its.caltech.edu/~atomic/snowcrystals/>

## For Teachers:

### Student Learning Objectives

- Students will learn about different snowflake designs and the weather conditions that correspond to different snowflake shapes.

### Classtime

- 30 minutes to discuss and learn about snowflake formation
- 10-15 minutes for art activity
- Overnight, for artwork drying

### Teaching notes

- Consider printing a variety of snowflake photos from the website before class.
- Facilitate a discussion about snowflake shapes and the science of snow before the activity.
- Use masking tape and pens to attach each student's name to their bag.
- The web links listed can extend learning.

### National Science Standards

- A: Science as Inquiry
- D: Earth Science

### National Art Standards

- Using knowledge of structures and functions
- Making connections between visual arts and other disciplines