

THE WONDER OF SNOWFLAKES

A MINI WINTER SCIENCE STUDY



EXPLORE · OBSERVE · DISCOVER



YOUR HOMESCHOOL
FAMILY OPERATING SYSTEM

WELCOME

Snowflakes Mini Science Study

Snowflakes are tiny works of art. In this mini study, you'll explore the amazing world of snowflakes through short readings and simple activities.

In this mini science study, you will:



Learn fascinating facts about snowflakes.



Try hands-on activities and observations.



Look for the wonders of science in everyday moments.

What you'll need:

- Paper and pencil
- Scissors
- Access to an outdoor space (if possible)
- A sense of curiosity!



DISCOVER

How Does a Snowflake Form?

FROM A TINY PARTICLE TO A UNIQUE SNOWFLAKE

Snowflakes begin high in cold clouds when water vapor freezes onto a tiny particle, such as dust or pollen. A small ice crystal begins to grow. As it moves through the cloud, more water vapor freezes onto the crystal, forming the beautiful, detailed shape we see as a snowflake.

1

A Tiny Particle



A snowflake begins when a tiny particle of dust (or pollen) travels high into a very cold cloud.

2

Water Vapor Attaches



Water vapor in the air freezes onto the particle, forming a tiny ice crystal.

3

The Crystal Grows



More water vapor freezes onto the crystal. The crystal grows, forming six arms.

4

The Shape Develops



As the crystal continues to grow, its unique shape develops. The pattern depends on the temperature and humidity in the cloud.

5

A Unique Snowflake



When the snowflake is complete, it falls through the sky - each one with its own unique design.

DID YOU KNOW?

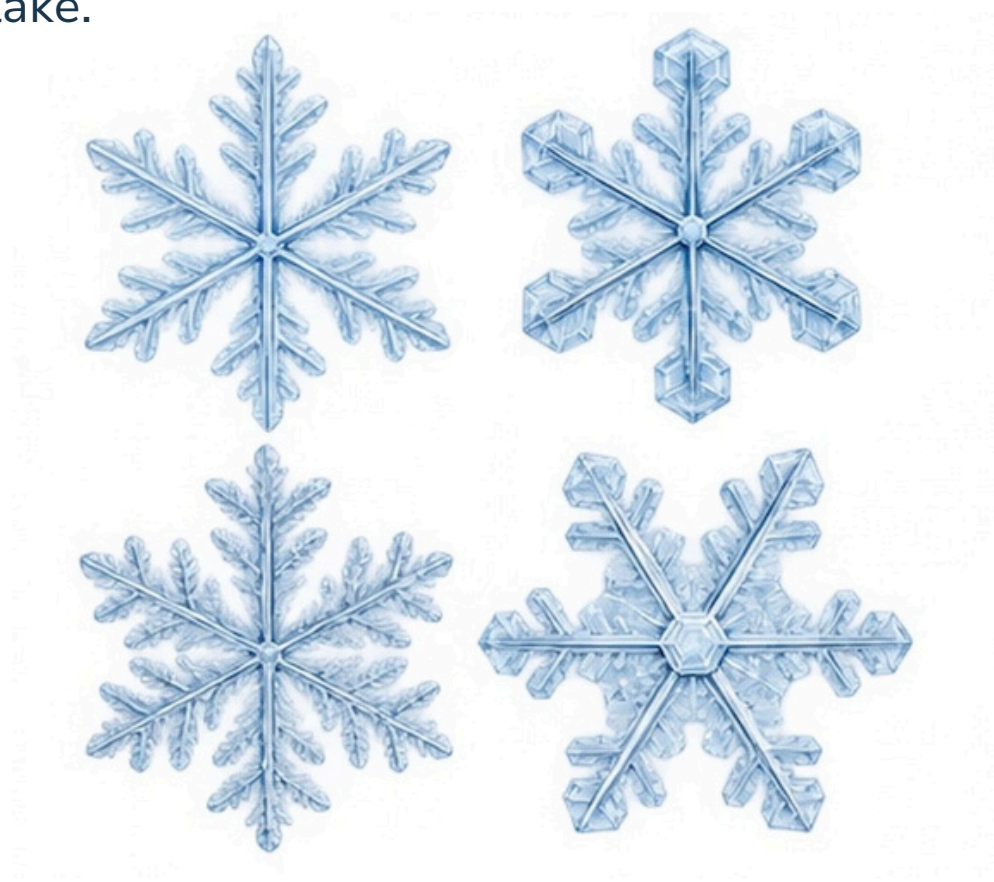
Snow crystals have a six-fold structure because water molecules naturally arrange themselves in a six-sided pattern when they freeze.

OBSERVE

Look at the Process

WATCH A SNOWFLAKE TAKE SHAPE

Look at the pictures below. They show how a snowflake can grow from a tiny ice crystal into a beautiful snowflake.



LOOK CLOSER

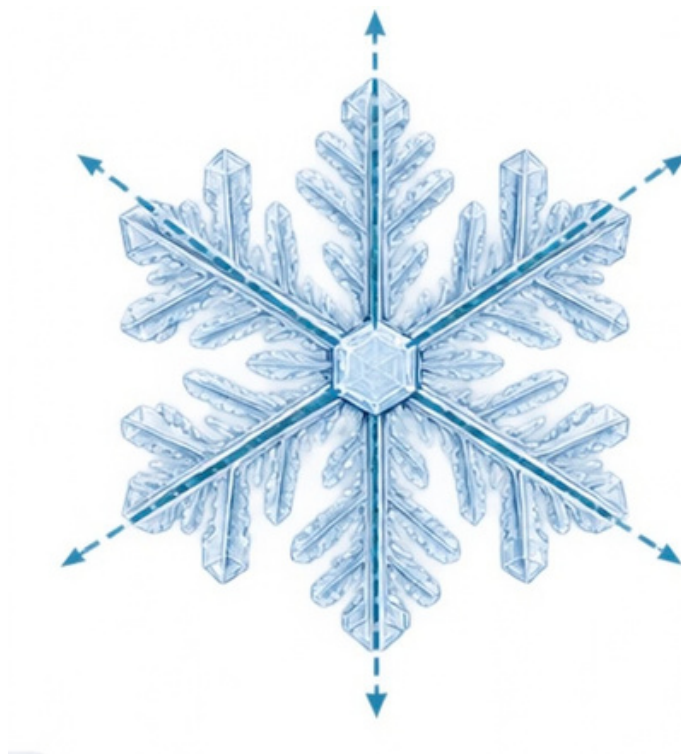
Notice how each snowflake has a six-sided shape, but each one looks different.

DISCOVER

Why Do Snowflakes Have Six Sides?

DISCOVER THE SCIENCE OF SIX-FOLD SYMMETRY

Water molecules naturally arrange themselves in a six-sided pattern when they freeze. This pattern is called six-fold symmetry, which means the snowflake looks the same from the center in six directions.



SCIENCE NOTE

Six-fold symmetry is one reason snowflakes are so beautiful and balanced.

EXPLORE

Snowflake Symmetry

COMPLETE THE PATTERN

Complete the missing half of each snowflake.
Try to make both sides match.



THINK ABOUT IT

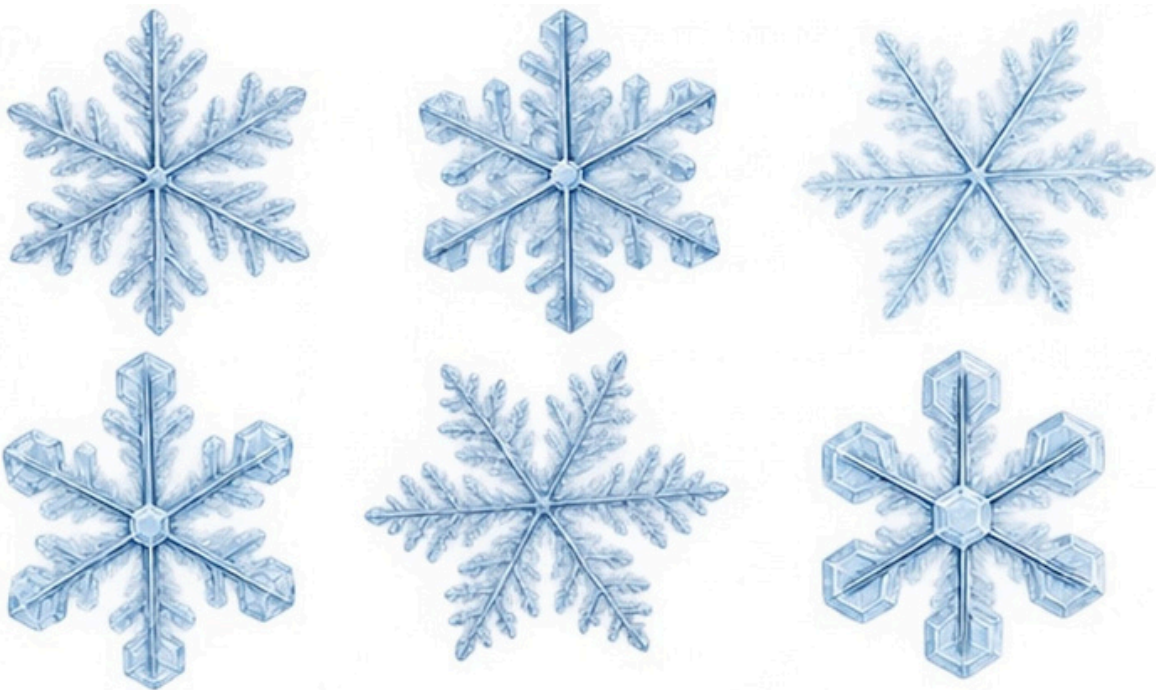
Can you create your own snowflake design with six sections?
What patterns can you find?

DISCOVER

Are Any Two Snowflakes Alike?

DISCOVER WHAT MAKES EACH ONE UNIQUE

No two snowflakes are exactly alike. Changes in temperature and humidity as a snowflake falls through the clouds help it grow. These tiny differences create an endless variety of shapes and patterns.



DID YOU KNOW?

Even though snowflakes are all made of ice, no two take the exact same journey.

EXPLORE

Catch a Snowflake

OBSERVE A REAL SNOWFLAKE UP CLOSE

If it's snowing, try catching a snowflake on a mitten, a piece of dark paper, or a magnifying glass. Look closely at its shape before it melts.



Date: _____



Temperature (if you know): _____



What did you notice about your snowflake?



Draw a picture of your snowflake:

DISCOVER

Why Does Snow Look White?

DISCOVER HOW LIGHT INTERACTS WITH ICE

Snow is made of many tiny ice crystals.

When light shines on them, the crystals scatter the light in many directions. This makes snow appear white, even though each individual ice crystal is clear.



DID YOU KNOW?

A single ice crystal is clear, but millions of crystals together make snow look white.

WRAP-UP

What Did You Discover?

1. How do snowflakes form?
2. Why do snowflakes have six sides?
3. Are any two snowflakes alike?
4. What makes snow appear white?
5. Which part of this study was your favorite?

MY FAVORITE DISCOVERY

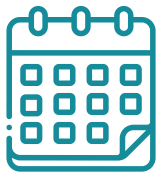
Draw or write one thing you learned that surprised you.



WRAP-UP

Continue the Learning Journey

Homeschool Ace brings homeschool and family life together in one platform, connecting homeschool planning, academic records, and student progress with family schedules, activities, routines, and responsibilities, so you have more time for what matters most: learning together and discovering the world.



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your
home



Stay
organized



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everyone's
day

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