

## Winter: the Season of Snow ❄️

Illustrations by Mary Lamb Greene

Winter may bring cold temperatures but it also brings the magic of snow – like confetti falling from the sky! Are you fascinated with snow like me? Have you ever wondered how a snowflake is made or how animals live under the snow? Let's become snow scientists together.

### How a snowflake is born

Snow begins as a speck of dust or salt that rises into the sky. As it reaches the clouds, water molecules start to attach themselves to the dust particle. This droplet grows as more and more water molecules connect. When the droplet cools, it freezes into an ice crystal. This crystal grows six branches with arms. Over time, it grows heavier and begins to fall as more water vapor condenses onto it. Continued condensation changes the crystal's shape as it falls from the clouds into warmer air where many clump together to form snowflakes.

Wow! Who would have thought that snow starts with a piece of dust?

### Each Snowflake is Unique

Just like fingerprints, no two snowflakes are alike. How do we know this? Well, scientists have been studying snow crystals for many, many years. In

fact, they have developed eighty different categories for classifying them. Here are the seven most common types. Each snowflake forms in different temperatures and conditions.



Hexagonal Plates are the most common form of ice crystal. They are a six-sided flat crystal with designs on their surfaces.



Hexagonal Columns are six-sided cylinders with either flat or pointed ends. They are formed in very cold, high altitudes. These snow crystals are responsible for those beautiful halos you see around a winter moon.



Capped Columns are hexagonal columns with hexagonal plates on either end.



Needles are long, slender six-sided columns looking like tiny bolts of lightning.



Stellar Crystals are the classic star-shaped flake with six branches having simple to elaborate designs radiating from the center.



Spatial Dendrites are feathery stellar crystals with other branches projecting from each of the six original branches.



Irregular Crystals is the catch-all category for all other shapes.

## LIVING UNDER THE SNOW

Did you know that some animals live out the winter beneath the snow? Scientists use the word subnivean to describe the world under the snow cover. Snow acts as a thermal blanket, protecting animals like mice, voles, and shrews from the winter cold. These animals build elaborate tunnels and nets under the snow. The tunnels are like little roadways that they travel through protecting them from predators. However, this frosty covering does not always hide them completely. Owls, foxes, and coyotes can hear mice moving through the tunnels from above and often pounce through the snow catching an unsuspecting mouse.

Snow is very important to the survival of these small mammals. This winter when there is a nice layer of snow on the ground, think about who may be living under it. And in the spring as the snow starts to melt you may find many of these tunnels scattered through out a forest, field or even your own backyard.

Thanks for learning about snow with me. If you want to learn more, visit your local library or ask a parent to help you search the internet to discover more interesting snow facts.

Get outside this winter and become a snow scientist!

