



# PRAXIS

The Science & Technology Hotline

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Newsletter

## Snow Facts:

- A Snow worm is an oligochaete worm that lives on temperate glaciers or perennial snow; there are several species that range in color from yellowish-brown to reddish-brown or black; they are usually less than 1 millimeter (0.04 inch) in diameter and average about 3 millimeters (0.1 inch) in length; some feed off red algae.
- A snowburst is a very intense shower of snow, often of short duration, that greatly restrict visibility and produce periods of rapid snow accumulation.
- Dirty snow melts faster than clean.
- Snow is white because visible sunlight is white. Most natural materials absorb some sunlight which gives them their color. Snow, however, reflects most of the sunlight. The complex structure of snow crystals results in countless tiny surfaces from which visible light is efficiently reflected. What little sunlight is absorbed by snow is absorbed uniformly over the wavelengths of visible light thus giving snow its white appearance.
- Snow forms in the atmosphere, not at the surface. So snow can fall when surface temperatures are above freezing as long as atmospheric temperatures are below freezing and the air contains a minimum moisture level (the exact level varies according to temperature).
- Clean snow is certainly edible. Snow in urban areas may contain pollutants that one should not eat but they would probably be in such low concentrations that it might not matter.
- Sometimes snow contains algae which gives it a red colour.



## Science Reporter 2006—2007

*If you are interested in trying your hand at being a newspaper columnist or a savvy tech reporter then this is the opportunity for you.*

*Throughout the 2006/2007 school year, the Medicine Hat News will print a weekly Science Column. This column will feature your projects. As well, if you do a podcast, Praxis will publish your science column on the Praxis website. There will be prizes for both Junior and Senior High Students. If your project is chosen, you could be the author of one of these columns and win a cash prize of \$100*



**20 publications will be featured this school year and submissions will be accepted until June 1, 2007.**

***All winning submissions will be eligible for the grand prize of an Apple iPod. One iPod will be awarded to a Junior High Student and one will be awarded to a Senior High Student in June 2007.***

***\*The Grand Prize Winner's Science Teacher will receive a \$200 Science Gift Certificate.\****

## DreamCatching 2007 Workshops

Attention all teachers and educators of Aboriginal students! DreamCatching 2007 is coming! From May 2 -5, 2007 the best and the brightest teachers, educators, and researchers will gather at the University of Regina, in Saskatchewan for the 4<sup>th</sup> edition of **DreamCatching: Professional Development Workshops in Math & Science for Teachers of Aboriginal Students.**

DreamCatching was the first conference of its kind, offering opportunities to learn about making curriculum culturally-relevant. DreamCatching continues to offer unparalleled experiences for participants to learn in focused, hands-on environments that provide unique learning opportunities that are designed for real-world application. Moreover, when participants return home, the DreamCatching experience does not end as participants are sent new usable classroom tools quarterly.

For more information please visit [www.dream-catching.com](http://www.dream-catching.com)

# Snowflake Classification

## Materials

microscope

glass microscope slides

snow

shoe box

clear spray lacquer Note: A good quality clear nail polish will also work well.

## Procedure

1. Leave the box, and glass slides outside overnight (or in the freezer).
2. Spray the glass microscope slides with the plastic spray.
3. Working quickly, hold the slide out in the wind in order to collect the snowflakes.
4. Once finished with the slide, place it in the shoebox and cover so that no more snowflakes fall onto the slide.
5. As the liquid plastic begins to dry, it will form a shell over the snowflake, replicating every detail of the snowflake, and giving you a permanent replica.
6. Repeat the above procedure for more slides—make as many as you wish!
7. Allow the slides to dry outside.
8. Once you come inside, leave the slides undisturbed for several hours so they can completely set.
9. Once the slides are dry, you can examine them under the microscope without them melting.
10. Try to classify your snowflake using the chart.

 Simple Prisms	 Solid Columns	 Sheaths	 Scrolls on Plates	 Triangular Forms
 Hexagonal Plates	 Hollow Columns	 Cups	 Columns on Plates	 12-branched Stars
 Stellar Plates	 Bullet Rosettes	 Capped Columns	 Split Plates & Stars	 Radiating Plates
 Sectoried Plates	 Isolated Bullets	 Multiply Capped Columns	 Skeletal Forms	 Radiating Dendrites
 Simple Stars	 Simple Needles	 Capped Bullets	 Twin Columns	 Irregulars
 Stellar Dendrites	 Needle Clusters	 Double Plates	 Arrowhead Twins	 Rimed
 Fernlike Stellar Dendrites	 Crossed Needles	 Hollow Plates	 Crossed Plates	 Graupel

Types of Snowflakes ... SnowCrystals.com

## Explanation

Although no two snowflakes will be identical, they do fall into some broad categories in order to identify them.

**Needle:** When ground temperatures are near the freezing point, needle crystals are formed (-5 to -10°C). They are often coated with rime, and pack closely to make a dense, stiff snow.

**Columns:** Are true crystals because the axis of the plates are parallel to those of the column.

**Plate:** These flakes are formed at temperatures of -10 to -20°C. Plates are formed instead of stellars at -15°C because there is less moisture available.

**Dendrite:** Hexagonal ice crystals with complex and often fern like branches.

For all of your science questions or needs, contact Praxis :

p: (403) 527-5365

f: (403) 528-6570

e: [praxis@praxismh.ca](mailto:praxis@praxismh.ca)

w: [www.praxismh.ca](http://www.praxismh.ca)

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