



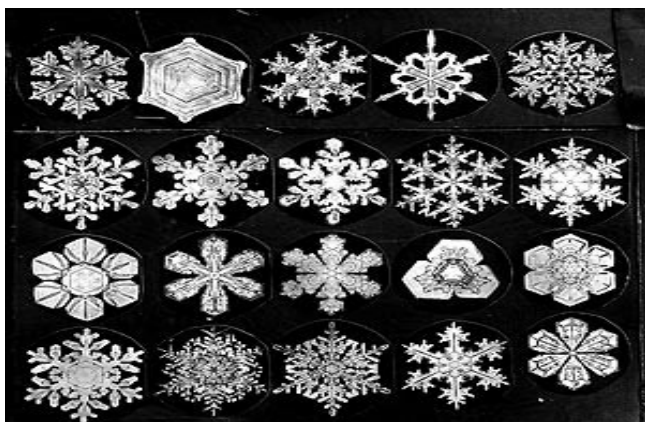
Snow Science Unit

snowcrystals.com thinkquest.com avalanche.org

Topics to Study:

- Mountain Weather
- Avalanche Education
- Cold Weather Effects
- Ice & Ice Caves
- Snow Drought

*“How full of creative genius is the air in which these are generated!
I should hardly admire them more if real stars fell and lodged on my coat.” Henry David Thoreau*



The shape of snow crystals depends upon several factors:

- Air temperatures
- Air currents (which direction the air is moving)
- Humidity levels (amount of water vapor in the air)
- How long it takes the crystal to fall
- Wind speed
- Amount of dust, salt, or other solid particles in air
- Pressure from the weight of other snow crystals
- Combining shapes with other snow crystals
- Changes to any of these factors

Eskimo Words for Snow

ah-ki-lu-kak	soft snow
ah-put	snow in general
i-gluk-sak	snow house.
i-yak-go-vak-jvak	snowflake
ka-hik	snow is falling
ki-mik-vik	snow that falls evenly

Read:

The Snowflake, Winter's Secret Beauty
by Kenneth Libbrecht

Mushhusky!
1-888-866-0156
mushhusky@acsalaska.net
www.mushhusky.com

People to Study:

- 1611-Johannes Kepler
- 1635-Rene' Descartes
- 1665-Robert Hooke
- 1911-Alfred Wegener
- 1931-Wilson A. Bentley
- 1954-Ukichiro Nakaya
- 1550-Olaus Magnus
- 1762-M. Guettard

Is it true that no two snow crystals are alike?

The short answer to this question is yes – it is indeed extremely unlikely that two complex snow crystals will look exactly alike. The long answer is a bit more involved – it depends on exactly how you define “alike”.

Ice Crystal Halos...

When sunlight reflects and refracts off tiny ice crystals in the atmosphere the result can be ice crystal halos which are related to rainbows.... (the latter being produced when sunlight reflects and refracts from water droplets).

Why is snow white?

Snow is made of small ice crystals. Individual crystals have no color. However, when light travels from air to ice, or vice versa, some light is reflected. Some of the light scatters back out after bouncing around awhile inside the snow bank. That is the light we see. Since all colors are scattered roughly equally well, the snow reflected back appears white.

What is hoarfrost?

Hoarfrost refers to the mass of white, hair-like pieces of ice that grow outward from cold objects in cold air. (The word hoar is an old term meaning white, or gray-haired.) One can see hoarfrost on blades of grass and leaves after a cold night. Hoarfrost is very closely related to snow because it also grows from the vapor. The only substantial difference between hoarfrost and snow is that hoarfrost has grown on some solid object such as grass.