



10 THINGS YOU DON'T KNOW ABOUT SNOWFLAKES



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- 1** Snowflakes look white because you see light scattered from all the edges, much like the white you see on a surface of scratched or etched glass. They're actually transparent.
 - 2** Snowflakes are made of ordinary ice, but they are not frozen raindrops nor do they come from liquid water. Snowflakes form when ice condenses directly from water vapor in the air.
 - 3** Snowflake shapes change dramatically with temperature. Thin, plate-like crystals grow when the weather is just below freezing; slender columns and needles form when it is a few degrees colder. Especially large flakes appear when the temperature is around -15 degrees C (5 degrees F).
 - 4** A snow crystal refers to a single crystal of ice. The term 'snowflake' can refer to a single snow crystal or a mass of many snow crystals that float to earth.
 - 5** Every snowflake has six arms and while the arms grow simultaneously, not all snowflakes are symmetrical.
 - 6** Snowflakes are frequently decorated with small ice particles called rime, colored droplets that collided with the crystals during flight and froze on their surfaces.
 - 7** Thirty five different types of snow crystals have been identified, including bullet rosettes, radiating dendrites, 12-branched stars and arrowhead twins.
 - 8** Because they are so small, it is best to view a snowflake with some optical gear. A basic magnifying lens, available at drug stores, or a jeweler's loupe are recommended.
 - 9** While almost impossible to verify, it is generally believed that no two snowflakes are exactly alike. As it blows around inside a cloud, a developing crystal experiences ever-changing temperatures and humidity levels. Each change in its local environment causes a change in the way the crystal grows. After numerous twists and tumbles, the final structure can be quite complex. Because no two snowflakes follow exactly the same path, it can be concluded that no two snowflakes are exactly alike.
 - 10** Snow crystals often show many flat, crystalline surfaces, or facets. Bright reflections off these mirror-like facets give freshly fallen snow its sparkle.
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Credit: "Ken Libbrecht's Field Guide to Snowflakes." Mr. Libbrecht's photographs of actual snowflakes, not much bigger than Abraham Lincoln's nose on a penny, are featured on this year's holiday stamps. Libbrecht, a Caltech physicist, used a high-resolution digital camera attached to a specially designed microscope to capture the images. Photos can be seen at www.snowcrystals.com.

