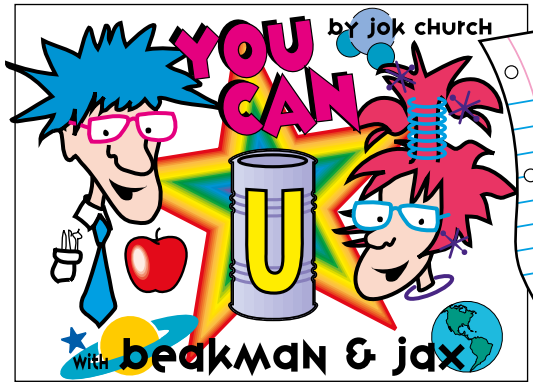
3-14-93 You Can B&W
Universal Press Syndicate



Dear Beakman,

When the snow melts, where does the white go?

Korby Everill
West Valley, Utah

Beakman or Jax,
P.O. Box 30177
Kansas City, MO
64112

Dear Korby,

That question is like a poem. It's a graceful thought that the white goes someplace when snow melts. Grown-ups sometimes can't see things that beautifully. Thank you for your clarity of thought.

Speaking of clarity, snow is made from water, and water is clear but snow isn't clear – or is it?

The white you see in snow isn't really a thing. It's a happening – an event. It's sunlight bouncing off millions of flat shiny surfaces, which are the sides of a snowflake.

Beakman

Beakman Place

Snow has 2 shapes – long columns that look like tiny little sticks and snowflakes. Snowflakes always have 6 points.

Sometimes you'll see people cut snowflakes with 8 points out of paper. Sometimes you'll see an 8-point snowflake in an ad. They're completely wrong.

Snowflakes have 6 points because they have to. The water molecules they're made out of are a lot like building blocks, and the shape they have always fits together to give you 6 points.

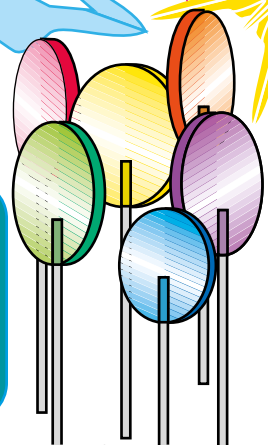
CAUTION: Cooking with melted sugars is very dangerous. The temperatures get as high as 310°. It's really important to get help from grown-ups for today's experiment. Have a little patience if they can't do it right now.

experiment #1

Beyond The Surfaces

WHAT YOU NEED: ½ cup water - 1¾ cups white sugar - help and permission from a grown-up

WHAT TO DO: Look at the sugar. It looks white. But it's not. Sugar is a lot like snow – clear, but it looks white. Now ask a grown-up helper to boil the water and stir in the sugar. Keep stirring. After 6 minutes' boiling, carefully pour it onto a clean plate.



WHAT IS GOING ON:
After the sugar cools off for an hour, pop it out of the plate and hold it up to the light. It's clear, isn't it? If your sugar has a light brown tint, it just means it cooked a bit too long. It still proves a point: If you melt the sugar together into one thing, it looks clear.

The reason snow looks white is that snow has millions of tiny flat surfaces that all act like tiny mirrors, bouncing sunlight. If you melt snow into water, you're doing just about the same thing as you did with sugar in your experiment.

By the way, if you put a couple drops of orange or lemon extract into your experiment, you'll end up making a big pass-around lollipop.

P.S. from Jax: Even though the North and South Poles are the coldest places on Earth, they do not get the most snow. Snowfall is greatest in California's Sierra Nevada Mountains – sometimes it's 40 feet deep!

Electronic color separations by MarinStat, Mill Valley, CA