4th Grade Builds Snow Machine
NewsDepth January 30, 2008
Classroom Activities

http://www.katu.com/home/video/14297287.html

Overview:

There is a bit of irony found between two of the segments in this week's **NewsDepth** feature. We have one segment about the extreme blizzard conditions happening in Beijing, China, and how thousands of people are helping to try and get rid of the vast amounts of snow. On the other hand, we have a young boy in Oregon spending his time trying to make snow.

A blizzard hit one back yard in West Linn, Oregon, this past Thursday. But there wasn't any snow anywhere else in the community. Talk about ingenuity. Forest Pearson, a ten year old fourth grader, built his own snow machine and filled his back yard with enough snow to look like a blizzard had blown through.

"It was just hypnotizing," said Pearson, who built the snow machine out of a 30-gallon air compressor that he got for Christmas, a pressure washer and a whole lot of research. The nozzle shoots out a perfect powder. In fact, the machine works so well that Forest ended up with three feet of snow in his backyard in just one night.

"He's watching a molecular process happening here," said Elizabeth Pearson, who is quite impressed with what her son has created. "He's creating a climactic event. It's incredible."

In today's science lesson, students will learn just what kind of climactic event Forest has created in his back yard. They will also see a comparison in the way nature creates snow and the way man makes snow.

Subject matter: Science

Grade Level: 4-5

Classroom Activities:

1. Lets' start with a discussion of the kind of weather event that is happening in China – a blizzard.
   - What causes a blizzard? This is certainly a good example of "Nature Made Snow."

Suggested resources:
http://library.thinkquest.org/C003603/english/snowstorms/index.shtml Thinkquest on the forces of nature doing a good job of providing information about snowstorms and blizzards.
http://eo.ucar.edu/webweather/blizzard.html This website is Web Weather for kids and features an interactive quiz about blizzards and has a link that illustrates and clearly explains this severe weather condition.
http://library.thinkquest.org/C0120505/zblizzard/whatcause.htm What causes blizzards.
http://www.ussartf.org/blizzards.htm United States Search and Rescue task Force.
http://www.guardian.co.uk/china/story/0,,2248194,00.html

- What are the effects of the blizzards in China right now? http://www.guardian.co.uk/china/story/0,,2248194,00.html "Snow Storms cause havoc in China"
  http://www.cnn.com/2008/WORLD/asiapcf/01/28/china.weather/index.html CNN's coverage of blizzards in China including video footage.

2. Even though we have experienced pretty "crazy" weather patterns here in the United States, we have fortunately escaped the severe kind of weather China is having right now. In fact, many people actually ***enjoy*** the snow. In just the right amounts, snow can actually be enjoyed for its beauty and its potential for lots of wintertime fun for both kids and adults. But what if you don't have snow? No problem. You have seen what Forest Pearson did to provide himself with a winter wonderland in his own back yard. (Watch segment again so students can see just what he created.)

- Just exactly how did he make his own snow? Visit http://www.katu.com/home/video/14297287.html and listen to Forest's interview explaining just how his snow machine works.
- At http://inventors.about.com/library/inventors/blsnow.htm students can learn more about "making snow". This site includes information on the first machine-made snow, and a timeline of patents for snow making machines.
- Discover more about how Nature makes snow, how Man makes snow, other uses for manmade snow, and how snow makers work: http://travel.howstuffworks.com/snow-maker.htm.

3. Even though you are not making three inches of snow in your school's backyard, this is fun activity for creating your own crystal snowflakes in the classroom without having to put on your hat and gloves: Handout #1

Borax Crystal Snowflake

Grow a snowflake in a jar!

You will need:
* string
* wide mouth pint jar
* white pipe cleaners
* blue food coloring (optional)
* boiling water (with adult help)
* borax (available at grocery stores in the laundry soap section, as 20 Mule Team Borax Laundry Booster - NOT Boraxo soap)
* pencil

Directions: Cut a white pipe cleaner into 3 equal sections. Twist the sections together in the center so that you have a "six-sided" star shape. If your points are not even, trim the pipe-cleaner sections to the same length. Now attach string along the outer edges to form a snowflake pattern. Attach a piece of string to the top of one of the pipe cleaners and tie the other end to a pencil (this is to hang it from). Fill a wide mouth jar with boiling water. Mix borax into the water one tablespoon at a time. Use 3 tablespoons of borax per cup of water. Stir until dissolved, (don't worry if there is powder settling on the bottom of the jar). If you want you can add a little blue food coloring now to give the snowflake a bluish hue. Insert your pipe cleaner snowflake into the jar so that the pencil is resting on the lip of the jar and the snowflake is freely suspended in the borax solution. Wait overnight and by morning the snowflake will be covered with shiny crystals. Hang in a window as a sun-catcher or use as a winter time decoration.

http://chemistry.about.com/cs/howtos/ht/boraxsnowflake.htm

http://web.archive.org/web/20010124041800/http://teelfamily.com/activities/snow/
There are many more classroom activities at that site.