

Cryogenic Temperatures

By Henry

Before our trip to Purdue I had no idea what a cryogenic temperature was, but I have been shown and now know what it is. Cryogenic comes from the word kyros which means very cold. When added to the word temperatures you get very cold temperatures. The whole seminar at Purdue was about cryogenic temperatures found in liquid nitrogen and dry ice. The liquid nitrogen was so cold that it made a banana as hard as a hammer, a flower as fragile as glass, and froze a carbon dioxide filled balloon. At the beginning the whole class touched a piece of dry ice and for a reason I don't know when I touched it, it felt like a sting. When we stuck an air filled balloon in liquid nitrogen the air molecules packed together and the balloon shrunk, and when we took it out it reformed because the air molecules became warmer and less dense. Also we had a ping pong ball which was put in liquid nitrogen with a hole on each side. Then we took it out on to the table and it began to spin since the nitrogen gas was coming out of the ball.

Later on there was a flower and the instructor stuck the petals in liquid nitrogen then slammed it against the wall and it shattered like glass. Then we had the u-tube which was my favorite and also the most surprising one, from my point of view. There is a tube shaped like a "U" and liquid nitrogen is poured on the side with the valve. Some nitrogen gas comes out and then you close the valve. On the other side the gas rushes through the tube and pushes the cork out with lots of force and the cork goes flying. The final activity our class did was make ice cream with liquid nitrogen and many other tasty

ingredients. When the liquid nitrogen was poured into the ice cream tub it evaporated a lot of nitrogen gas which was a very noticeable observation. Some of the ingredients mixed with the liquid nitrogen were milk, cream, sugar, and mint, but I thought that there was a little too much mint. From all of our activities you can see that liquid nitrogen has many purposes, but it is only one fun part of cryogenic temperatures.

