

>> Now this is a cooling curve. The cooling curve compared to the heating curve is more of a mirror image to the heating curve. Okay. We notice down here that heat is being removed as we go from left to right. Over here though you'll notice that the two temperatures that are most important continue to be 0-degrees and 100-degrees. Okay. So, let's take a look at the cooling curve itself. Up here you have your gas state that's above 100-degrees. As you take gas and start cooling it off by removing heat the gas becomes cooler and cooler until it reaches 100-degrees C. At 100-degrees C the condensation point has been achieved. At this point gas will now slow down enough to start having those intermolecular attractions which will cause it to turn into a liquid. So, at the plateau we have a gas and a liquid coexisting. Gas is becoming liquid until we get to this point right here on our curve. Our last gas molecule has become a liquid molecule. Now as we continue to remove our heat the liquid will start cooling down. The liquid at this point is at 100-degrees and it will cool down and cool down and cool down until we get to the freezing point. At the freezing point you'll find your second plateau. At this point our liquid will have cooled enough that now we've gotten to the point where the attractions that you see in a solid are going to start coming into effect. We'll see liquid turning into solid at the second plateau. You're not seeing any temperature change at all. Once the very last liquid molecule has turned into a solid again now the solid as you remove the heat will start getting cold. And here we have a solid at 0-degrees and as we remove heat the solid goes to negative values.