surprising	muddiest	The fact that the water froze after the vacuum was removed and the system was re-pressurized in the experiment that was shown during class.
surprising	muddiest	I am still learning more about the "mpemba effect", this thermodynamic phenomena is interesting, yet confusing to me, and seems counter-intuitive.
surprising	muddiest	I am struggling to answer the in class questions. The time given is not much but is doable to answer, however the fact that we are not able to discuss it with our classmates and exchanges ideas to make sure we are on the right track makes it harder to get the right and precise answer for the questions and earn the extra points which I look forward in classes.
surprising	muddiest	I was surprised that the water boiled and froze during the experiment.
surprising	muddiest	What surprised my the most was water in a vacuum video. It was really cool to see it. My Muddiest point is interpreting charts. That will take some practice but I think I<DEL><DEL><DEL>ll have it down during this weekend
surprising	muddiest	I am still a bit confused by the equilibrium process and how we are able to use that to understand systems. I feel like we usually look at idealized systems, and this doesn't seem ideal at all.
surprising	muddiest	The water froze, that was unexpected but makes sense now. What is the path, on the phase diagram, that the water takes?
surprising	muddiest	The water boiling and freezing in the vacuum was a very interesting example that I struggled to wrap my head around. Where I was muddy was translating observations onto a phase diagram. Also, I was very pleasantly surprised by the studio format, I think it is a great way to proceed in the future as it allows for students to be outspoken without fear of losing points because they are "wrong".
surprising	muddiest	phase diagrams and equilibrium. also i do not know what is gibb's free energy in physical meaning
surprising	muddiest	I was surprised to learn that Gibbs energy is the same for two species in eqm. I don't understand the vacuum video. Its physically hard to see. I can't tell how many phases are present at the end.
surprising	muddiest	the water Pv graph is only valid for equilibrium. I got confused by this fact.
surprising	muddiest	I was surprised the most by the liquid to gas to solid vacuum chamber experiment.
surprising	muddiest	
surprising	muddiest	I was surprised how bad I was a quickly interpreting the graphs shown throughout the class.
surprising	muddiest	What suprised me the most was how unsure I was about the path in between the states of the water placed in a vacuum. The locations of the states was straight forward but the in between was pretty much a lucky guess. I constructed almost the perfect path but it was only because I had remembered a similar situation during last terms midterm for thermo 311. We were asked to trace the rankine cycle path over a PV diagram, and I remembered that a piece of the cycle traced the saturation curve. I wasn<DEL><DEL><DEL>t sure this was the correct answer because we were presented with a PT diagram in class and the midterm from last term gave us a PV diagram.
surprising		How little we were taught about thermodynamics.
surprising		Lecture was focused much more around concept warehouse discussion rather than new material or more traditional "lecturing" content.
surprising		the format of the class is not what i am used to however i like it better because it is more interactive
surprising		What I liked is the professor like the student to understand the concept. And I really liked the lecture spent on concepts.
surprising		is that we finally have a class with a HW threshold policy which will definitely help me learn the concepts instead of worrying about getting to the correct answer.
surprising		Learning that the energy required for phase change was able to freeze water before it can evaporate
surprising		The water freezing post vacuum exposure really surprised me but after we went over it as a class it really made sense
surprising		Using the water in a vacuum video to discuss 1 component phase diagrams was useful.
surprising		What surprised me the most is how far away Wiegand Hall is from the rest of campus.
surprising		I was glad to see that the class was set up like 213 and that we'd be spending alot of time on concepts.
surprising		I was surprised that the water in the vacuum video froze at the end, but after we discussed it as a class I understand it better
surprising		I think what surprised me the most is how different the structure of this class is compared to the first thermo. I feel like we've been going over mostly concepts right now and not equations, but I am sure that will change. I also really like the way homework is set up in this class because it takes less pressure off of being right and puts me more in the mindset of how do I think this problem should be approached.
surprising		We haven<DEL><DEL><DEL>t been diving into equations and such.
surprising		What surprised me the most was when the water froze. I only thought about the pressure dropping resulting in boiling. I didn't put together the fact that the energy had to come from somewhere and that place was the water itself.
surprising		A lot of this week was just really easy to understand.
surprising		What surprised me the most this week was the video of the beaker of ice freezing. After talking through it everything about it makes sesame but it<DEL><DEL><DEL>s still a very interesting phenomena.
surprising		The graph analysis is important.
surprising		what surprised me the most was the fact that the water froze inside of the vacuum chamber because I was unable to see that change happening. The fact that it froze due to the energy taken from vaporization was also quite surprising
surprising		I was surprised at first about the water from the experiment boiling only a little and then freezing. It just showed how you have to tie multiple ideas from thermo to be able to predict the outcome of something, rather than just considering one.
surprising		The thing that suprised me the most was the point about the water under the vacum not being in equilibrium. Most of the problems I've done, I've assumed equilibrium without even noticing.
surprising		I was surprised that some of the water under the vacuum vaporized, some froze, but none of it stayed as a liquid. I understood why some froze and some vaporized but I don't get why none of it was liquid at the end.
surprising		In the vacuum chamber discussion we had this week, I was surprised to learn the resulting final state of the water. The reasoning makes sense to me now, but I did not think about all the factors in play.

surprising		I was most surprised by the concept of not looking at problems technically with equations and instead using a more encompassing approach.
surprising		How much I am enjoying the class. I am enjoying it a lot more than I enjoyed thermo 1. It<DEL><DEL><DEL>s much more engaging
surprising		the concept of boiling water until it freezes
surprising		I was surprised the water under the vacuum ended up freezing but it made sense in the end.
surprising		If talking about week 1, the water freezing was what surprised me, I forgot that a substance can pull energy from itself to change phases and that it could result in multiple phases at once.
surprising		The application of conceptual learning is very different and unique than other classes I have taken. I like the way that when we want to come up with an answer to a problem, we share our thoughts with other students to come up with the most logical
surprising		I was surprised by how much the classes ChemE students take this term align. Certain concepts are taught in one class and reinforced in another. After having a few weeks of a break, I am fuzzy on some of the concepts learned last term, but so far I feel like I'm following along okay in class.
surprising		What surprised me the most was when the vacuum evaporation ended up making ice as well because I did not recognize that the water had to internally extract energy to perform the evaporation.
surprising		I was surprised by the answer to how the process was represented on the phase diagram. I understand now that considering whether a process is in equilibrium or not is key.
surprising		How interactive the class is compared to ChE 311
surprising		You can use a hypothetical path to for the enthaply of solution for the ice pack to account for temperature changes.
surprising		When Ice froze in a vacuum it surprised me. I thought it would completely vaporize to help equalize the pressure inside the vacuum to atmospheric pressure. It makes sense now, especially because ice is less dense than water, but I expected the water to evaporate instead of freezing. However, that can be explained by the high heat of vaporization of water causing the temperature of the liquid water to drop.
surprising		The Vacuum Video confused me but after it was explained I understood
surprising		when we first watched the video of the water in the vacuum, it surprised me that the water froze, but after an explanation in class it made sense why everything occurred.
surprising		That salts are used to cool water
surprising		I was surprised by forming of the solid in the experiment. I though the water will boil and the whole volume is evaporated and formed vapor.
surprising		How great a visual the vacuum water operation was! It really helped my understanding!
surprising		how the problems that we worked through were simple cases that we have seen in ChE classes before.
surprising		how water in a vacuum can boil once the pressure is reduced and then freezes because energy is taken from the water.
surprising		How the class is being taught is much different than the first term of thermodynamics and makes me a happy that it will be taught differently than how it was taught before.
surprising		The lectures are all conceptual and I did not feel like I learned anything
surprising		In the vacuumed liquid water experiment, I was surprised by how the theoretical path looked on the phase diagram. I was expecting the temperature of the system to start decreasing as the boiling started, but that wasn<DEL><DEL><DEL>t the case
surprising		Was how little physical note taking occurs.
surprising		Although I vaguely remember having seen it before now, seeing the water freeze in the vacuum chamber experiment surprised me a little when I saw it in class.
surprising		That you have to consider aqueous mass when calculating the heat capacity for water in a solution. I originally thought that you only measured the water, but it makes sense that anything in the water would affect its heat capacity.
surprising		I learned hot water can freeze faster than cold water, assuming their initial temps are fairly close and neither are already almost freezing.
surprising		
surprising		That not all of the liquid in the dome evaporated
surprising		How much we focused on the video and that concept
surprising		That water froze after it boiled under vacuum
surprising		I really like these concept warehouse questions. They help keep me on track with lecture and class material and emphasize my weaker points (concepts vs. computational problems). Even though I am not very confident with my answers, I enjoy these questions.
surprising		It surprised me that the water in the vacuum not only boiled, but froze afterwards as well. I anticipated before watching the video that when the pressure dropped, the water would just boil. When we first watched the video and realized the water froze at the end, it was very surprising at first. Going over the phase diagram though and the path that the water took helped me understand the reaction better.
surprising		I haven't taken CBEE 213 yet, so this teaching style is new to me. I was surprised by the focus on answering questions together in class rather than the traditional lecture format.
surprising		The explanation of the phase diagram for water in vacuum and how the Gibbs free energy is associated with the water freezing from state 2 to state 3
surprising		I found it interesting to me that we are now going to consider much more than before when discussing the states of a system.
surprising		CHE 312 surprised me by switching to a different grading scheme, having it more focus on "effort" rather than completion. It is a much appreciated change.
surprising		I did not think that the water in the vacuum would freeze. I did not consider the temperature drop that would occur to compensate for the pressure drop.

surprising		I think the lecture style surprised me the most. I thought since he wrote the textbook, that he would do a more lecture-based teaching approach. But I appreciate how he's being more interactive with the class.
surprising		We seem to be filling in a lot of gap instead of moving onto new material the first week
	muddiest	It was unclear which would be the best way to draw thepath of the water sample on the phase diagram from the viedo we watched: To the liquid-vapor equilibrium line or below. I got that comment of the diagram being for equilibrium states, which are sample did not reach until the end, yet still unclear if we should draw the "hypothetical path" or the "visualized" (never saw the sample be fullly vapor) path.
	muddiest	relating what I see in a phase diagram to what I expect to happen under certain conditions, all the information is there I just have to try harder to visualize it.
	muddiest	Gibbs free energy and entropy are state functions that have always had an obscure definition to me. The relationships formed between the state function parameters and the physical characteristics of the molecules are not well supported
	muddiest	The example we looked at, where a glass of water in a vacuum initially began to boil, then began to freeze, confused me a bit. If I remember correctly, we had established the the energy for vaporization came from the water that later froze, but it didn't make sense to me why the waters energy would spontaneously concentrate itself in only some of the water molecules. If I think about it using Gibbs energy, the water must have been able to maximally increase its entropy by doing so, but I am not completely confident in my understanding or reasoning of the phenomena.
	muddiest	I didn't know if we had to solve the homework problem using simple models or use more complicated models because I know that there is more advanced things that are involved when two materials combine other than just the heat of solution. But, since we hadn't covered them yet I thought we should use heat of solution.
	muddiest	When the temperature and pressure change, how does the state of the object change, and how to draw the change image in the phase diagram. For example, how to determine the coexistence of solid and liquid and so on.
	muddiest	
	muddiest	I haven't been to class this week because I just got back from Indonesia. But I did read through posted notes, I understand the notes but not the last slide (text 320-321).
	muddiest	The vaporization in the vacuum. I thought it would ride the vaporization curve.
	muddiest	I struggled with not having structured notes to use
	muddiest	I sometimes have a hard time drawing on my past knowledge as I try to apply things ive just learned in the course instead
	muddiest	The lack of direction on the homework. There were multiple ways to do the problem but it seemed like there was only one right way that they wanted the problem done
	muddiest	I think you did a good job and refreshing and clearing up the confusion for those topics. I personally found it to be very helpful.
	muddiest	Still confused about the whole video concept and the diagram because there wasn't a clear answer given on the worksheet.
	muddiest	From last lecture, I think what was <DEL><DEL><DEL>muddiest<DEL><DEL><DEL> for me was the connections between entropy, Gibbs free energy, and phase equilibrium (especially the connection of these concepts with the example of the 20 mL of water placed under vacuum). After reviewing PChem concepts and re-reading some portions of the textbook, I found the connections much less muddy, although I am still trying to better connect those concepts with the observation of the water-under-vacuum experiment.
	muddiest	I think the muddiest point was the initial lack of clarification of when the freezing of the water occurred in the vacuum example, and the second stage of the hypothetical path for the water freezing
	muddiest	I have a hard time remembering to do these pre quizzes along with getting access to the lecture slides
	muddiest	It is challenging to think of these problems conceptually at times but it is good practice and I hope to get better at approaching these problems in such a way.
	muddiest	I didn<DEL><DEL><DEL>t get to write down any formulas in my notes
	muddiest	Lectures and readings have been a good refresher and introduction to the course. Does the pressure of the system in the bell jar experiment increase from 0.045atm when the water starts evaporating?
	muddiest	How does one know whether a system is close enough to being at equilibrium to be able to approximate it as such? Is there a rule of thumb?
	muddiest	I enjoyed class and the way it made me think, but I had a hard time discerning what was a correct vs. incorrect answer or way of thinking.
	muddiest	The most difficult thing for me to understand is thinking about phase diagrams as "at equilibrium" instead of "at that moment". To me, it seemed like the system was over-constrained but it really isn't.
	muddiest	I'm having trouble seeing where we are going next. Having an idea of the next step helps me understand what is important to focus on now.
	muddiest	I did a little with Gibbs energy in my physical chemistry class but I'm happy to get some more practice with it
	muddiest	I'm uncertain of how to use the phase diagram to help us when it comes to reactions where the phase diagram can't describe the situation. It seemed to only make it more confusing.
	muddiest	I don't understand how Gibbs free energy relates to solving problems. I wish there was an example problem to better solidify my understanding.
	muddiest	I need to take more time to read the questions in class so I don't misinterpret them and answer wrong.
	muddiest	What the difference between H,U,S,A,G are and what they represent physically.
	muddiest	I assume "muddiest" refers to a point where I struggled to grasp something initially. My muddiest point was when we were discussing the phase diagram for the video shown and talking about where each state was. This was hard for me to understand at first but then it was brought up that the diagram is only for systems in equilibrium and we were approximating the state locations for a system that was not in equilibrium.

	muddiest	I was late in registering for the course, so there's some times during class where I am a bit confused. I just have to catch up on the day(s) that I missed. Learning for me is a bit slow at the moment as I am trying to get back into school mode.
	muddiest	The fact that phase equilibrium occurs when entropy of the universe is at a maximum. Why does it matter what the entropy of the universe is to the system? Also, are there not phases that represent a "local maximum", like in biochemical processes, where a reaction would get stuck with external energy input into the system?
	muddiest	I found lecture hard to follow and get anything out of. I like to take notes and reflect on them, but I found that it was difficult to take notes without a "structure" to follow.
	muddiest	i didn't really understand phase equilibrium or the phase diagram with the vacuum
	muddiest	In the bell jar experiment, I am confused how using it<DEL><DEL><DEL>s internal energy to evaporate, caused it to freeze.
	muddiest	What we are going to be learning this term
	muddiest	When drawing the phase diagram of the water under vacuum, the point was made that since the water is always trying to achieve equilibrium,just looking at the water's phase doesn't determine its state. With that in mind, how do we know that state 2 is at the same temperature as state 1? Since I would have guessed that the enthalpy required for a phase change would first manifest as a temperature drop, then a phase change.
	muddiest	Using the phase diagram plot to try and analyze a dynamic process was a little difficult at first, but I understood the purpose of it by the end of the class.
	muddiest	I don't really know what is the best strategy to come to class prepared.
	muddiest	I was a bit confused on the pathway that was developed from the video. I understand that pressure drop caused a release of energy from the water due to the temperature differential resulting in ice. But I wasn't sure if it had to pass through the triple point just went through the liquid-vapor and then vapor-solid or some combination.
	muddiest	I feel that I am currently in a transitionary phase back to normal after taking these 3 weeks off. I<DEL><DEL><DEL>m just having trouble remembering concept so I need to just practice more and maybe do some more reading so I can attempt to create a higher change for more moments where concept clicks.
	muddiest	When the time comes to analyze questions at class for concept warehouse.
	muddiest	While I find it fascinating that the liquid in the vacuum would it turn to ice, I don<DEL><DEL><DEL>t entirely understand why it would follow the liquid vapor saturation line to do so.
	muddiest	I understood most of the thinking this week, but I did not like how our phase diagram model did not exactly work and was considered a simplification and not a proof. This messed with my thinking some.
	muddiest	I still feel a little fuzzy on the gibbs phase energy stuff that we went through near the end of lecture on Friday. I hope we go over it a little more tomorrow.
	muddiest	The most confusing part of this weeks lectures is the the phase changes of the liquids. Should as the the water phase change of water inside a vacuum sealed environment.
	muddiest	Some of the concept are not clear. For example, the video and the phase diagram explaination. Hope fully, professor could give more explaination.
	muddiest	I thought the boiling water in the vacuum jar followed the equilibrium line, but class discussion cleared that up for me.
	muddiest	Figuring out why the water in the experiments we watched froze was initially very confusing, but through some problem solving and critical thinking the answer became clear.
	muddiest	I had an old version of my schedule and didn't check MyOSU to see that the class had changed locations so I showed up to Gilbert, and it took me a while to make it to Wiegand. Then I missed some Concept Warehouse in-class because I was late. Also I didn't know about the pre-lecture quizzes until wednesday so I missed those points too. It felt like I started the class on the wrong foot.
	muddiest	I need to refamiliarize myself with Thermo 1 concepts and equations to better understand what we are doing this term
	muddiest	We used Gibbs to show why a liquid and vapor were in equilibrium, but anything else relating to Gibbs is muddy.
		I think this question was posted too early, I haven't been to class this week. But last week, what surprised me the most was how much I liked just going in and talking about the concept warehouse questions together.
		Class seemed to be a review of topics that have been covered in a few classes taken before. It wasn't surprising nor "muddy" but it was a good refresher.