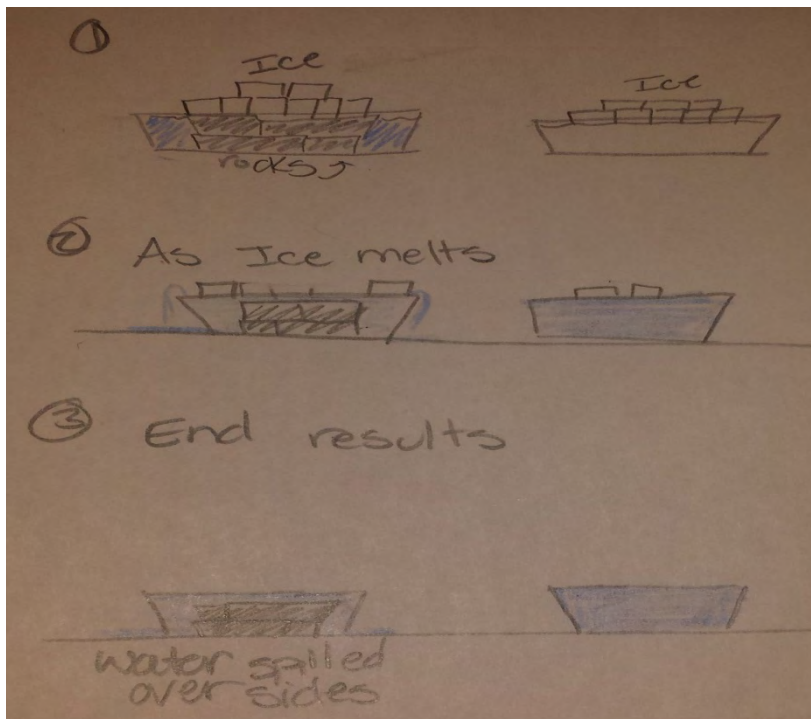


Example Student Response to #2 Homework 7 about Rising Sea Levels

This week in lab our group did an experiment that looked at the effect of melting ice upon the Earth. To do this experiment we took two trays, one with rocks in it and one that was empty. In each tray we set ice cubes, in the empty tray we just set them on the bottom, and in the other we set them balanced upon the rocks. We then filled the trays to the brim with cold water and waited to see what would happen. As the ice on the rocks “land” began to melt, they fell off and into the water. When this happened the tray over flowed and spilled onto the table beneath it. The same thing can happen on a much larger scale when the Greenhouse effect is causing ice to melt and move off of land mass and into the water. Below is an image of what happened with the experiment in class.



I then looked at the website: <http://www.climatecentral.org/news/melt-of-key-antarctic-glaciers-unstoppable-studies-find-17426> from the organization climate central. One thing that I found very interesting was this quote: “Because the valleys in which the glaciers flow become deeper farther inland, the glacier becomes thicker as the grounding line retreats. This increasing thickness propels the ice along — the glacier “flows faster, and away it goes.” I had not really thought before about how these glaciers are moving and what makes it easier for them to move nor had I thought of the implications of that on a global scale before this class much.

As we watched the second tray melt we noticed that the water though very full never spilled over. However there are still concerns with the ice melting in the water. After looking at

<http://scied.ucar.edu/longcontent/melting-arctic-sea-ice-and-ocean-circulation> I learned that this melting ice has an effect on how water is circulated globally throughout larger bodies of water. Essentially the colder saltier water will sink and the warmer less salty water will rise. However as the ice melts much of it is freshwater and is making the seawater at high latitudes less salty and also less dense. This has the potential to change the global conveyor of water and could have very negative effects on our oceans and the animals and plants living within them.

Thermal expansion of oceans contributes to rising sea levels. Student then were asked to collect a thermometer and observe the temperature seen. My starting temperature was around 21°C. Students then held onto the thermometers for about 3-5 minutes and then looked at the temperature again. What we saw was not only a rise in temperature but a rise in the liquid inside the thermometer. Below is a drawing of what was observed. More about what is happening with the rise in sea levels as temperature increases can be seen at various websites such as <http://www.epa.gov/climatestudents/expeditions/sea-level/index.html>