The activity I have enjoyed the most and the students have found most challenging the last few years is one that doesn’t involve science directly but could be easily enough modified for many kinds of classes.

In my Marine Science classes we do a unit on ocean resources and cover topics such as fisheries, oil & gas, minerals, and renewable energy. I usually start it with an activity called the Tragedy of the Commons which demonstrates to them the finite nature of biological resources and how they can be overexploited if there is no cooperation. They then read and watch videos about the decline of world fisheries in the open ocean in what is supposed to be a common resource for all mankind.

Another common resource that most people don’t think about that much is free and safe transit of the seas. 95% of global trade occurs by sea. In the last ten years there has been an epidemic of piracy in one of the busiest shipping lanes in the world off the mouths of the Red Sea and the Persian Gulf. The pirates operate out of Somalia, a resource poor country that has been without a functioning government for over twenty years. Hundreds of ships, both large and small, and their crews and cargo have been hijacked and held for ransom despite the presence of the military of several developed nations. Most ship owners have not wanted to arm their crews for fear of getting in to an arms war with the pirates. Since the 1992 Black Hawk Down incident no military or political power has attempted to re-establish control of Somalia from the warlords and criminals who rule there. In short, a nearly insoluble problem.

I do a short power point about the basics of this problem then ask them to do some research on the issue by either reading articles I provide or using computers to access the internet. I only give them about 30 minutes for their research but there are a great many resources and they are not all reading the same ones. I then randomly assign them to one of three discussion groups in which they are to propose the best solution to this problem, not from their own personal points of view, but from the point of view of the group I assign them, which are:

1. The captains and crews of the ships being hijacked (in personal danger)
2. The owners of the ships and cargo (in economic danger)
3. The political and military leaders of the nations whose shipping is being affected (in political danger)

We then hold a debate on how best to solve the problem and still serve the interests of everyone involved (including the people of Somalia). The whole exercise mirrors the real world situation in that all parties are working with only a portion of the information available, their interests are not in perfect alignment but reliant on the others, and there is no perfect solution.

This whole scenario could be easily modified so that the problem is a contagious epidemic, group 1 is first responders, group 2 is pharmaceutical companies and hospital administrators, and group 3 is politically appointed public health officials.