1. What are your **initial thoughts** on the video above and on the topic of the impact of Animal Agriculture on Climate Change? (2 pts) Note that other alternatives could be used instead of beans. (50-100 words)
   I think I was shocked by how much carbon dioxide cattle contributes to the atmosphere since it does this through deforestation when trying to create land for cattle for grazing making it increase global warming since trees are cut down for grazing so cattle can eat.
2. There is a population crisis - but probably not the one you think. To help you develop your own understanding of the topic, perform a quick search of the internet for answers to A and B to calculate C (numbers may vary depending on which source you use). Also use the internet to find the answer for D. (2 pts)

A. How many people are there in the world? What does the average person weigh? Multiply the two numbers and get the total weight of people in the world ?
   There are around 8.2 billion people in the world and the average person weighs 62 kilograms. Multiplying this it gives us 492 billion kilograms for the total weight of people in the world.

B. How many cows are there in the world? What does the average cow weigh? Multiply the two numbers and get the total weight of cows in the world?
   There are 1.55 billion cows in the world with an average weight of 635 kg. Multiplying the two gives me 2.71 trillion pounds

C. Compare the total weight of cows in the world to the total weight of people in the world. The cows obviously way more meaning they contribute more methane and carbon emissions to the atmosphere.
D. Where does the country you are from rank in consumption of beef?
   The US is the third in the world accounting for 21% of the world consumption of beef.

II. Film Clip from "Cowspiracy - The Sustainability Secret (16:00)" (10 pts)

Questions:

Cattle emit methane rather than CO_2 when they respire because respiration is performed by bacteria that can decompose cellulose under the anaerobic conditions in the cow's rumen where no oxygen is present. But this is not the only factor that makes the carbon

footprint of cattle so high. Explain each of the following components for the high Carbon footprint from cattle.

3. **Crop production and transportation of the feed (1 pt).** What percent of grain and legume crops are used for animal feed worldwide and in the US?50 of grain and legume grain are fed to the animals.
4. **Water Consumption (2 pt):** Why does it take so much water to raise cattle? Skim this ARTICLELinks to an external site. to find out more. (50-100 words)
5. Raising cattle consumes 1/3 of the water in the world due to its water footprint and since the crops they feed on require so much water. According to the blue water foot print which relies on irrigated feed for cattle and also creating this feed requires large amounts of water to create the feed for mixing, drinking and maintenance .These explain some of the reasons cattle require so much water.
6. **Destruction of Rainforests (2 pt):** Rainforests are critical to removing carbon from the atmosphere. The burning of Amazon Rainforests by slash and burn agriculture to raise cattle and grow feed crops for cattle also add carbon to the atmosphere and is one of the most challenging issues of our time. What are your thoughts on this? (50-100 words)
7. Deforestation that is being championed had led to destabilization of communities, since the rainforest breathe in co2 and exhale oxygen, removing them led to loss of a rich bio diversity. Removing the rainforest for cattle for their food crops has led to loss of land and increased our CO2 emissions
8. **Film Clip Review (5 pts):** After watching the film clip, what are your thoughts on Animal Agriculture and the related impacts on Climate Change?
   I am shocked that cows and cattle contribute so much methane when they respire. It is very shocking to me since they release more methane and contribute to greenhouse gases in comparison to all transportation combined. Cattle also contribute a large percentage of biomass to the atmosphere. I was surprised how much land is utilized for cattle when they consume all legume and grain and that they even need more and the earth may need to be converted to legume and grain for cattle.

   Questions you could address include:

- What are your thoughts on if or how humans could make changes as a result of this information?
- Humans could eat less cattle and eat beans more or contribute less to ocean acidification and deforestation so that we reduce how much carbon dioxide is released to the atmosphere

- Do you have any (individual or policy) ideas on how to get more people to limit their meat consumption?
- We should create a policy to limit how much beef a family can eat per month and reinstall this in store. Policy makers should work with analysts to know how much beef people need and enforce rules around that.
- What makes it challenging to convince people to limit their meat consumption? (i.e. individual, cultural, food availability reasons, nutrition, etc.)
- What makes it hard is ignorance where many people will not sit around to listen to conversations about climate change as they believe that it is actually not real or even not happening which is rather sad.

III. Regenerative Agriculture (5 pts)

Reversing Climate Change with Regenerative AgricultureLinks to an external site.. (50 - 100 words)

Regenerative agriculture is so important especially in keeping the soils healthy. It works by minimizing the ploughing of land so as to keep the carbon dioxide in the soil leaving fungies undisturbed since the agricultural traditional methods of today maximize food generation leading to soil degradation.

In 50-100 words, describe what you found most interesting about this solution.

What I found the most interesting about this solution was their suggestion that lower income countries consuming more food than beef would reduce carbon emissions and how changing the diet can be a significant especially in countries where they consume large quantities of beef and how taking plant based food can overall reduce the gigatons of carbon emissions in the atmosphere.

Extra Credit (2 pts)

3. Discuss what you have learned about the impact of animal agriculture on climate change with a friend or family member who is not familiar with the topic. Document how the conversation went. (2 pts)

My sister was shocked that the amount of methane that cattle emit to the atmosphere and water that a cow takes since this would increase the amount of greenhouse gases to the atmosphere.