Pollution—

After the BP Deepwater Horizon oil spill, the United States policies and supervision of offshore drilling has come under review. ***Evaluate the regulations which are currently in place for offshore drilling. Should another spill occur, discuss the economic, ecological and political responsibilities which the federal government will have in the clean-up process.***

Energy Sources—

The Keystone XL pipeline is planned to transport tar sands oil from Alberta, Canada to Houston, Texas. There is already a segment of pipeline moving oil to refineries in Illinois and Oklahoma. Estimates for the number of temporary jobs (construction) created by this project range from 2500 to 25000. Permanent jobs created are likely in the range of 75-100. **Discuss the economic impact of this project on the state of Kansas (how much tax revenue would it generate), and how many jobs would be created. Based on the potential environmental impact, justify your position as to whether the state of Kansas should support this project?**

Populations—

There is a strong correlation between Total Fertility Rate (TFR, number of offspring per adult woman) and level of education, where women with more education (no high school classes, high school graduate, completed some college, advanced degrees, etc.) produce fewer children than those with less education. ***Explain what factors contribute to this phenomenon. Evaluate the types of programs which are already in place to slow population growth in developing nations, and discuss what role the United Nations should (or does) play in educating women and lowering TFR.***

Climate—

Climate data shows that our average global temperature is increasing (global warming), but public acceptance of this fact fluctuates between 50-60%. One possible reason for this might be because climate change predictions are based on complex mathematical models. **Identify the changes to our climate which are predicted by our best current climate models. Discuss why the general public doesn't trust climate change data and mathematical models and the role that media sources (newpapers, TV networks, etc) play in this mistrust. What can (or should) scientists do communicate with the general public about climate change?**

Sustainability —

Current EPA regulations state that automobile manufacturers must produce vehicles with an average fuel efficiency of almost 38mpg by the year 2016, up from 27.5mpg today. ***How will car manufactures reach this difficult goal?*** As of 2013, the top 6 companies for fuel efficiency in the United States are all Japanese or Korean companies. ***Explain what, specifically, the federal government should do to encourage domestic automakers to catch up. Discuss what will happen to our air quality and energy use as a result of this increased fuel efficiency.***