**Science 10H – Learning about human activities contributing to climate change**

**(Ms. Richard / Ms. Ikeda)**

This project will be ongoing throughout the semester and will require you to apply what you learn in class with what is happening in the world. In groups of three, you will research your topic. At the end of the semester, you will present a 7-10 minute information video (like in *Sixty Minutes*) or presentation on your topic.  In addition to raising awareness about your issue, you will have to demonstrate that you have been proactive in trying to reduce carbon emissions and have helped to fight climate change!

Topics:

1. The impact of deforestation in Indonesia on climate change and our world. Focus on the growing number of palm oil plantations.
2. The impact of deforestation in the Amazon on climate change and our world.
3. The impact of extracting oil from the tar sands in Alberta on climate change and our world
4. When transporting crude oil, which has the least impact on the earth? Train or ship or pipeline?
5. The impact on our world and climate change as growing populations in China and India use more fossil fuels?
6. The impact of fracking in BC on climate change and our world
7. The impact of the extraction of liquid natural gas (LNG)in BC on climate change and our world
8. The impact of the Northern Gateway Pipeline project if it goes ahead.
9. The impact of mining in BC on climate change and our world (Sixty percent of the world’s miners are on TSX exchanges – and most are based in BC – *Van Sun*, April 20, 2013)
10. Petroleum exploration in the Arctic. How is this impacting places such as Churchill Manitoba and the polar bears who live there?

Presentation requirements and timeline :

November 4 - Notes with an overview of your topic (10 individual marks )

* What is the economic benefit of your human activity?
* Who benefits from the human activity?
* What is the time frame of your human activity?

December 2 - Notes about the environmental Impacts (30 individual marks)

* Biological and chemical - How are the plant and animal life of specific areas or regions affected?
* Geological –? i.e. What are the effects on the land?

Geophysics - How are the physics of fields such as meteorology, oceanography, and seismology affected? i.e. How has it affected (might it affect) temperatures, weather patterns, etc.

December 9

* Notes about the environmental initiatives being taken that are related to your topic. (5 group marks)
* Journal entry about some of the actions that you have taken to raise awareness, and a copy of a sent letter, email, or petition with recommendations to try to effect positive change and to slow the effects of climate warming (15 marks – group work)

January 13-17 – Presentations (30 marks – group work/ 10 marks – individual’s role in the presentation)

Evaluation (100 marks)

* 40 marks - Individual notes : quality of research/ depth of content/multiple sources cited – statistics, experts quoted (which can be reenacted in your presentation)
* 20 marks – Group mark – Notes about the environmental initiatives related to your topic (5 marks); Journal entry about the actions that you have taken to raise awareness, and a copy of a sent letter, email, or petition with recommendations to try to effect positive change (15 marks – group work)
* 30 marks – Group mark – Informative, interesting and creative, effective presentation where students learn about the critical issues involved with your topic and what you and others have done to try to change policy
* 10 marks – Individual mark: your role in the presentation