Daily Lesson Plan

Course Name:	
Unit Title: Radiation and the Human Body	**Day: 6 of 15**

Relevant NC Standard Course of Study Goal(s):

- EEn.2.2.1 Explain the consequences of human activities on the lithosphere past and present.
  - Explain ways to mitigate detrimental human impacts on the lithosphere and maximize sustainable use of natural resources.
- EEn.2.2.2 Compare the various methods humans use to acquire traditional energy sources (such as peat, coal, oil, natural gas, nuclear fission, and wood).
  - Compare the methods of obtaining energy resources: harvesting (peat and wood), mining (coal and uranium/plutonium), drilling (oil and natural gas) and the effect of these activities on the environment.
- EEn.2.7.3 Explain how human activities impact the biosphere.
  - Summarize ways to mitigate human impact on the biosphere.
- EEn.2.8.1 Evaluate alternative energy technologies for use in North Carolina
  - Critique the benefits, costs and environmental impact of various alternative sources of energy for North Carolina (solar, wind, biofuels, **nuclear fusion**, fuel cells, wave power, geothermal).

Specific Lesson Objectives

Students will understand:

- how different nations' energy use and North Carolina energy use is relative to their daily lives
- the complexity of energy use by region, and the complexity of attempts at mitigation of environmental damage due to harvesting of various types of energy especially at the local level

Students will know:

- the types of energy and how much that energy is used in North Carolina
- the environmental costs of different types of energy harvesting processes such as drilling, fracking, nuclear power, mining for coal and uranium, etc.

Students will be able to:

- use Google Energy data to interpret what types of energy and what proportions of each type of energy are used by nation (when data has been made publicly available)

Key Vocabulary/Formulae for this Lesson

- nuclear energy, traditional energy, renewable energy, sustainability, fossil fuel

Materials

- index cards, textbook, laptops, continue with Energy by Nation handouts, optional guided notes for NC Energy Use

Technology Needs
● laptops, internet access (Google Energy data)

LESSON ACTIVITIES			
Procedure: Include all sections that apply to this lesson; combine as necessary.			
Section	**Time**	**What the Teacher will do:**	**What the Students will do:**
Guided Practice	20 min 15 min	Teacher distributes laptops and circulates room to help students navigate the data for their assigned nations. Teacher directs students to share data on the board with projected table that matches student handout. Once data is shared on the board, teacher directs discussion on the trends we see in energy use by nation/global region and/or lack of trends.	Students finish collecting information from Google Energy Data on their three assigned nations. Students share data on board from their assigned nations and participate in discussion of trends by region.
Input and Modeling	35 min	Teacher provides introductory lecture to North Carolina energy use, with special attention to energy use relative to the Triangle region such as the Shearon Harris Nuclear power plant.	Student listens and takes notes on NC Energy Use. Students formulate questions based on regional example which are relevant and/or where they have previous knowledge.
Independent Practice/ Homework		Teacher assigns and explains directions for homework.	Students will complete list of every activity that used electricity or some energy source during their day, and students will complete
Closing/ Summary	5 min	Teacher will review directions for homework	Students copy down homework directions.

Assessment of Student Learning
How & when will you know that the students have learned this material?

Differentiation Strategies*		
How will you adjust aspects of the lesson to accommodate student READINESS?		
Struggling Students:	**Gifted/Advanced Students:**	**English Language Learners:**

How will you adjust aspects of the lesson to accommodate students' LEARNING PROFILES?
How will you adjust aspects of the lesson to accommodate students' INTERESTS?