Daily Lesson Plan

Course Name:	
Unit Title: Radiation and the Human Body	**Day: 9 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.

Specific Lesson Objectives

Students will understand:

- the public perception of radiation on the human body and how the overall levels of radiation in everyday objects contributes to that level
- how radiation might affect the human body

Students will know:

- the various radiation levels of everyday objects
- sources of radiation

Students will be able to:

- use a websearch to find levels of radiation in everyday objects such as antique glass, cell phones, foods, etc.

Key Vocabulary/Formulae for this Lesson

- radioactivity, mutagenesis

Materials

- websearch handout

Technology Needs

- laptops for each student (or small group/partners

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:**
Statement of Objective & Purpose	15 min	Teacher introduces transition from Environmental science study of radiation and the next part of the unit: examining sources of radiation on the human body and what effects this radiation might have. Teacher leads KWL on radiation as it specifically relates to the human body, as well as incorporating what we have already learned about the effect of radiation.	Students listen and then complete KWL first on their own on radiation, and then as a class share questions they have on radiation and how this might affect human health.
Input, Modeling, & Check for Understanding	5 min	Teacher shows news video on coverage claiming that cell phones and other electronics can cause cancer. Teacher fields questions/opinion from students: Do you think that everyday objects like cell phones are dangerous to our health? Why or why not?	Students watch news video and answer opinion questions after the video.
Guided Practice	45-60 min	Teacher distributes laptops and explains instructions for websearch, as well as explaining that it will be interesting to estimate the radiation for each object before finding the information (labeling it on a spectrum for very low to very high). Teacher circulates throughout the completion of the websearch to assist students/answer questions.	Students may conduct websearch individually if laptops are available for each student, or in pairs/small groups. Student will estimate the radiation level of each every day object before searching for answers on its radiation level.
Closing/ Summary	5 min	Teacher asks students to volunteer the most shocking findings from the websearch. Example: A banana has some radioactivity! What does this mean for our health? Is some level of radiation sustainable in our lives?	Students volunteer particularly shocking findings from the websearch and decide if they personally believe that some radiation in these objects is a necessary risk, or whether these objects do not pose a health risk to humans.