

## Daily Lesson Plan

<b>Course Name:</b>	
<b>Unit Title: Radiation and the Human Body</b>	<b>Day: 11 of 15</b>
<b>Relevant NC Standard Course of Study Goal(s):</b>	
<ul style="list-style-type: none"> <li>● Bio 1.1.3 Recall that chemical signals may be released by one cell to influence the development and activity of another cell.</li> <li>● Biol 2.1.1 The input of radiant energy which is converted to chemical energy allows organisms to carry out life processes.</li> <li>● Bio.3.1.3 Mutations can be random and spontaneous or caused by <b>radiation and/or chemical exposure</b></li> </ul>	
<b>Specific Lesson Objectives</b>	
<b>Students will understand:</b>	
<ul style="list-style-type: none"> <li>● how radiation, as they have currently learned about it in a physical science and environmental context, has an impact on organisms</li> </ul>	
<b>Students will know:</b>	
<ul style="list-style-type: none"> <li>● key terms: mutation, cell death (apoptosis), radioactivity</li> </ul>	
<b>Students will be able to:</b>	
<ul style="list-style-type: none"> <li>● discern between natural and human-created sources of radiation and describe the conditions under which radiation can become harmful to humans/life on Earth</li> </ul>	

<b>Key Vocabulary/Formulae for this Lesson</b>
<ul style="list-style-type: none"> <li>● mutation, radiation, human-made radiation, mutagenesis, apoptosis</li> </ul>
<b>Materials</b>
<ul style="list-style-type: none"> <li>● PPT materials</li> <li>● Case Study Handout</li> </ul>
<b>Technology Needs</b>
<ul style="list-style-type: none"> <li>● Laptop/projector for presentation</li> </ul>

<b>LESSON ACTIVITIES</b>
<b>Opening (Hook, Warm-Up, Anticipatory Set, Review, etc.)</b>
<p><i>Describe activity to elicit active involvement of students or refer to previous learning:</i>                  Students will read current events article on the science of radiation. Teacher may choose to have students write a short summary/response to article which may be collected/completed in their science notebooks.</p>

<b>Procedure: Include all sections that apply to this lesson; combine as necessary.</b>			
<b>Section</b>	<b>Time</b>	<b>What the Teacher will do:</b>	<b>What the Students will do:</b>
<b>Statement of Objective &amp; Purpose</b>	15-25 min	Teacher will introduce current events article based on radiation used in cancer to expose students to topic before brief lecture.	Students will read article and annotate it as they have practiced in science and English classes (underlining words they do not understand, writing a question in the margins, etc.) Students will create a brief summary and response to the article.
<b>Input, Modeling, &amp; Check for Understanding</b>	30 min	Teacher gives notes presentation on biological radiation and invites students to ask questions/bring relevant experiences to the lecture.	Students listen, take notes, participate in discussion on radiation and cancer treatment.
<b>Guided Practice</b>	30 min	Teacher creates active groups by assigning students roles within their teams (reader, timekeeper, notetaker, etc.) Teacher instructs students to read through excerpt from Radiation case study module (linked). Teacher circulates room to assist students with answering questions and comprehending the material from this excerpt related to radiation in the human body.	Students will work in groups to read through case study on Radiation in Human Body and answer questions/complete the assigned exercises based on their reading.
<b>Closing/ Summary</b>	10 min	Teacher introduces topic for tomorrow: How do scientists and non-scientists view risk differently? How would this affect policies in medicine, the environment, and our everyday lives?	Students listen to introduction to our discussion/Socratic method on risk. Students return case study materials and pack up materials.
<b>Assessment of Student Learning</b>			
<i>How &amp; when will you know that the students have learned this material?</i>			
Teacher will evaluate responses from groups during Radiation case study excerpts (collected).			