

## What is Radiation?

<b>Course Name: Physical Science, Earth Science, Biology</b>	
<b>Unit Title: Radiation in the Human Body</b>	<b>Day: 1/15</b>
<b>Relevant NC Standard Course of Study Goal(s):</b> <ul style="list-style-type: none"><li>● PSc.3.1.1 Explain thermal energy and its transfer.<ul style="list-style-type: none"><li>○ Compare thermal energy, heat, and temperature.</li><li>○ Compare conduction, convection, and radiation as methods of energy transfer.</li></ul></li><li>● EEn.1.1.3 Explain how the sun produces energy which is transferred to the Earth by radiation.</li></ul>	
<b>Specific Lesson Objectives</b>	
<b>Students will understand:</b> <ul style="list-style-type: none"><li>● what overall learning goals and themes they will work with this unit</li><li>● how energy is transferred from the Sun</li><li>● that energy can take different forms</li><li>● the scientific use of common words like heat, energy, and temperature</li></ul>	
<b>Students will know:</b> <ul style="list-style-type: none"><li>● what radiation means as a scientific process</li></ul>	
<b>Students will be able to:</b> <ul style="list-style-type: none"><li>● define relevant vocabulary in their own words</li><li>● compare and contrast conduction, convection, and radiation</li></ul>	
<b>Key Vocabulary/Formulae for this Lesson</b>	
<ul style="list-style-type: none"><li>● radiation</li><li>● thermal Energy</li><li>● radiant energy</li><li>● atom</li><li>● heat</li><li>● temperature</li><li>● convection</li><li>● conduction</li></ul>	
<b>Materials</b>	
<ul style="list-style-type: none"><li>● white board</li><li>● marker</li><li>● laptop</li><li>● projector</li></ul>	
<b>Technology Needs</b>	
<ul style="list-style-type: none"><li>● teacher laptop</li><li>● projector</li><li>● Unit Overview PowerPoint</li><li>● Introductory notes PowerPoint</li></ul>	

<b>LESSON ACTIVITIES</b>			
<b>Opening (Hook, Warm-Up, Anticipatory Set, Review, etc.)</b>			
<i>Describe activity to elicit active involvement of students or refer to previous learning:</i> Students will complete KWL (Know, Want to Know, Learn) chart on Radiation, filling out only first two columns. (10 min)			
<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>	2 min	State the goals and agenda for the day	listen
<b>Input, Modeling, &amp; Check for Understanding</b>	20 min	Lead class discussion on Radiation KWL chart to fill out class-compiled chart on white board together	provide individual input to the K and W columns as prompted by teacher, add items from the class list to their personal list.
	15 min	Present Unit Overview PowerPoint to show students some of what will be discussed about Radiation this unit.	listen, answer when prompted
	40 min	Deliver introductory Radiation notes via PowerPoint presentation	listen, take notes in format according to teacher preference, answer when prompted, ask questions to clarify understanding
<b>Closing/ Summary</b>	3 min	assign exit ticket asking students to define Radiation	complete exit ticket
<b>Assessment of Student Learning</b>			
<i>Students will have a vocabulary quiz on Day 5 and a Unit Test on the final day of the unit. The assessment for this day alone is evaluation of the assigned exit ticket. Qualitative evaluation should be consistently carried out by the teacher in the form of leading questions and class discussions.</i>			