

Score	Description	Student Score
<b>Exceeds Target (Exemplary)</b> <ul style="list-style-type: none"> <li>Deeper more rigorous thinking</li> <li>Application to real world use, teach another person, use information to solve problems in a different context, explain connections between ideas, demonstrate a unique insight and/or creative application of skills.</li> </ul>	Radioactive tracers used in medicine and agriculture have short half lives. Research radioactive tracers and describe their decay time and daughter nuclei. Describe how radioactive tracers are used in medical treatment and how the body excretes them.	
<b>Mastery of Target (Application)</b> Can apply target to new information.	Use half life graphs to compare different isotopes.	
<b>Proficient in Target</b> <ul style="list-style-type: none"> <li>Expected level of performance for all students</li> <li>Consistent and Independent</li> </ul>	Compare and contrast the four different types of nuclear radiation. Write decay equations showing parent and daughter isotopes. Create a decay series graph showing the changing isotopes and radiation types. Create a half life graph from lab data.	
<b>Approaching Proficiency</b> <ul style="list-style-type: none"> <li>Basic learning necessary for foundation of target.</li> <li>Recall questions, fact-based skills, basic applications</li> <li>Independent, not consistent</li> </ul>	Define alpha particle, beta particle, and gamma ray.  Write and interpret isotope symbols including A number and Z number.  Define half life for a given element.	
<b>Needs Development</b> <ul style="list-style-type: none"> <li>With help, can demonstrate some understanding of target</li> </ul>		
<b>No Evidence to Measure</b>		

HS-PS1-8. Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.