

Standard Alignment & Scoring Rubric for Satellite Assembly Activity

Aligned with Project 2061 *Benchmarks for Science Literacy*, American Association for the Advancement of Science

	1 Attempted Demonstration	2 Partial Demonstration	3 Proficient Demonstration	4 Distinguished Demonstration
<p>Benchmark 2-B #1 (Grades 9-12), pg. 33</p> <p>Mathematical modeling aids in technological design by simulating how a proposed system would theoretically behave.</p>	Student attempts to assemble a component. Mathematical scale contains inaccuracies.	Student finishes a component with no more than 2 mathematical errors.	Student finishes components with no mathematical errors.	Student creates an accurate scale model with no errors and adds detail not required in blueprints such as ID numbers, names, etc.
<p>Benchmark 3-B #4 (Grades 6-8), pg. 50</p> <p>Systems fail because they have faulty or poorly matched parts, are used in ways that exceed what was intended by the design, or were poorly designed to begin with. The most common ways to prevent failure are pre-testing parts and procedures, over-design, and redundancy.</p>	Individual pieces of component cannot be fit together.	Individual pieces of component fit together but component does not fit with final assembly.	Individual pieces of component fit together and component fits the final assembly of other components.	Individual pieces of component snugly fit together and component fits flawlessly with other components.
<p>Benchmark 3-B #1 (Grades 6-8), pg. 50</p> <p>Design usually requires taking constraints into account. Some constraints, such as gravity or the properties of the materials to be used, are unavoidable. Other constraints, including economic, political, social, ethical, and aesthetic ones, limit choices.</p>	Student attempts to assemble components but is unable to produce a complete part in the allotted time.	Student produces a component but does not meet the time constraint.	Student produces a finished component within the time limit.	Student produces a finished component at least 3 minutes before the time deadline.