

Rubric to Evaluate Unpowered Chain Reaction Device (grades 4-6)						
Evaluation Criteria	Expert = 4	Proficient = 3	Emerging = 2	Novice = 1	Assessment	Comments
Design & Process Criteria						
Creating viable solutions to the given challenge: mechanism use	Four or more, well developed stages exist meeting all challenge rules	Three well developed stages exist meeting majority of challenge rules	Two or more partially developed stages are evident	A single stage that may or may not be developed is evident		
Simple machines and pendulum usage	Device uses three or more efficient simple machines/ pendulum	Device uses two functioning simple machines/ pendulum	One simple machine/ pendulum exists that functions	Attempt at using one simple machine/ pendulum		
Design Process (defined by the teacher; could be Idea Book use)	Design process utilized, documented & enhances product	Design process utilized and fully documented	Design process utilized consistently	Some evidence that design process was utilized		
Utilization of Resources (materials and parts, Information and instructions, people, and time)	Resources used fully within challenge rules and efficiency maximized	Resources utilized to maximize efficiency	Evidence that some resources utilized meeting challenge purpose	A few resources (e.g., tools & materials) partially utilized		
Technical Criteria						
Mechanical Systems (mechanisms & triggers)	Completely functional and consistent mechanical systems	Consistently functional mechanical systems	Functional, but inconsistent mechanical systems	Non-functional or incomplete/ unsafe mechanical systems		
Unifying Themes (This area emphasizes the Interaction of Science, Technology, & Human Endeavor)						
Communication (written, electronic and/or oral as defined by the teacher)	Sophisticated and highly efficient communication for stated audiences	Purposeful, consistent, effective communication	Purposeful, partially consistent communication	Communication very inconsistent and lacks purpose		
Teamwork	Integrated teamwork that maximizes outcomes is evident	Teammates fully define roles, goals, & work together	Teammates partially define roles, goals, & work together	Participants function separately within a group		
Creativity	Device is unique, imaginative, and functional	Device is unique and/or imaginative in multiple ways	Device clearly shows a unique and/or imaginative element	Unique and/or imaginative element(s) unclear		

Rubric Adapted from Rubric and Evaluation Criteria for Standards-Based Robotics Competitions & Related Learning Experiences – TSA, 2005

