

How does the project align to the Next Generation Science Standards?

NGSS	Project
3-5-ETS1-1: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	<i>Students will build and modify the mechanical claw, taking into account constraints on the number of fingers and joints that can be built with the given materials. (Sections 1, 2, 3)</i>
3-5-ETS1-2: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	<i>Students will compare how successful each claw redesign is in solving a specific problem like recreating a movement or picking up an object. (Sections 2, 3)</i>
3-5-ETS1-3: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	<i>Students will conduct multiple trials and iterate the claw's design to successfully pick up a wood ball, foam ball, and marble. (Section 3)</i>