3-5 Engineering Design	Links
Standard: 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. 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. 3-5-ETS1-3Plan 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.	<u>3-5 Engineering Design</u>
 21st Century Learning Expectations: Hinsdale students will communicate through various means Hinsdale students will be able to solve problems 	Link for 21st Century Learning Expectations
 Enduring Understandings (cross cutting concepts): Influence of Science, Engineering, and Technology on Society and the Natural World People's needs and wants change over time, as do their demands for new and improved technologies. (3-5-ETS1-1) Engineers improve existing technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands. (3-5-ETS1-2) 	

Learning Competencies (engineering practices)	Essential Questions (core ideas)
Students will be able to: (NGSS Science and Engineering practices)	
<u>Asking Questions and Defining Problems</u>	
 Asking questions and defining problems in 3–5 builds on grades K–2 experiences and progresses to supplicit in a solution of the second s	why is it important to
specifying qualitative relationships.	solve problems:
 Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes sourced criteria for success and constraints on materials, time, or 	How do I solve problems?
process, or system and includes several criteria for success and constraints or materials, time, or cost (2-5-FTS1-1)	
Planning and Carrying Out Investigations	How do I know if my
 Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 	problem solving plan will
builds on K–2 experiences and progresses to include investigations that control variables and	work?
provide evidence to support explanations or design solutions.	
• Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence,	
using fair tests in which variables are controlled and the number of trials considered. (3-5-ETS1-3)	
<u>Constructing Explanations and Designing Solutions</u>	
Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses	
to the use of evidence in constructing explanations that specify variables that describe and predict	
phenomena and in designing multiple solutions to design problems.	
Generate and compare multiple solutions to a problem based on how well they meet the criteria	
and constraints of the design problem. (3-5-ETS1-2)	
Parformanco Task Sample:	
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Build a Toy	