



## National Education Standards

Engineering Adventures units are written with the goal of teaching engineering skills and critical thinking practices. Many Engineering Adventures units also touch upon a variety of science topics and principles. The engineering standards taught in *Engineering Space Gloves*, and the science concept connections within this unit, are noted below.

<b>ITEEA – STEL Core Disciplinary Standards Grades 3 – 5</b>	Prep Adventure 1: What Is Engineering?	Prep Adventure 2: What Is Technology?	Adventure 1: Everyday Gloves	Adventure 2: Chilling Out	Adventure 3: Ready for Impact	Adventure 4: Dangerous Dust	Adventure 5: Create a Space Glove	Adventure 6: Improve a Space Glove	Adventure 7: Engineering Showcase
Nature and Characteristics of Technology and Engineering	✓	✓	✓	✓	✓	✓	✓	✓	✓
Core Concepts of Technology and Engineering			✓	✓	✓	✓	✓	✓	✓
Integration of Knowledge, Technologies, and Practices							✓	✓	✓
Impacts of Technology			✓	✓	✓	✓	✓	✓	✓
Influence of Society on Technological Development	✓	✓							
History of Technology									
Design in Technology and Engineering Education	✓		✓	✓	✓	✓	✓	✓	✓
Apply, Maintain, Assess Technological Products and Systems	✓		✓	✓	✓	✓	✓	✓	✓



<b>Next Generation Science Standards Grades 3 – 5</b>	Prep Adventure 1: What is Engineering?	Prep Adventure 2: What is Technology?	Adventure 1: Everyday Gloves	Adventure 2: Chilling Out	Adventure 3: Ready for Impact	Adventure 4: Dangerous Dust	Adventure 5: Create a Space Glove	Adventure 6: Improve a Space Glove	Adventure 7: Engineering Showcase
3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.							✓	✓	
4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.				✓			✓	✓	
4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.					✓		✓	✓	
5-PS1-3. Make observations and measurements to identify materials based on their properties.			✓	✓	✓	✓	✓	✓	
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-ETS1-3. 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.	✓	✓	✓				✓	✓	✓