Engineering Sock Assistive Devices
Connections to Next Generation Science Standards

NGSS Performance Expectation		In this unit, youth:
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.	Determine their sock assistive device needs hold the sock open, pull the sock over the foot, and let go of the sock (criteria) while the user can reach only as far their knee and they can only use the materials provided (constraints).
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.	Work in groups to imagine several ideas and justify design decisions using evidence from investigations.
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.	Test and evaluate their sock assistive devices against the criteria and constraints and use those findings to improve their designs.

Crosscutting Concept

Systems and System Models

In this unit, youth create a sock assistive device, which is a system, that interacts with a person with limited mobility. Youth must consider how the components of their device work together to complete all three steps of putting on a sock.