**Teacher Daily Guide - Simple Machine EDP Challenge**

\*\*\*This activity was designed for a technology and engineering classroom that was equip with materials, tools, and machines. It can easily be adapted for classrooms that do not have this setting and teachers can use non- traditional materials such as plastic silverware, tooth picks, or any other materials they deem fit.

**Materials Tools**

Wood from Labeled Bin Any teacher approved tools in Tool Cabinet

Multiple Screws/Nails Scroll Saw

String Band Saw

Rubber Bands (Max. 5) Belt Sander

Paper Clips Drill Press

Wood Glue Power Drill

 Power Miter Saw

**Daily Outline (45 minute classes)**

**Day 1** -The Engineering Design Process – Engineering Design Process “Is A lot Like” Video , Engineering Design Process PowerPoint, hand out student Engineering Journal . Introduce and cover expectations of Engineering Journals

 **Day 2** - Introduction to Simple Machines -Simple Machines PowerPoint, Simple Machine Game

 **Day 3 -** Reinforce Simple Machines - OK Go Simple Machine Educators Guide ,OK Go Simple Machine Video

 **Day 4** - Final Review of Simple Machines - Simple Machines Quizlet , Students work through Engineering Journal for sketching. Show sketching basics

 **Day 5 -**  Work Time and Teacher Instruction - Give students time and help as they are working through developing their sketches with their partners

 **Day 6** - Finalizing all sketches. Measurement & Calculations– Teacher checks & instructions

 **Day 7** - Safety Lesson- walk students to each machine, give safety rules they should take notes as needed.

 **Day 8** - Safety Quiz & Wood Prep - Students take quiz for tool use. Teacher demonstrates how to measure, calculate and layout wood to be cut.

 **Day 9** - Construction Basics - Show some tips and basics of construction prototyping

 **Day 10-12** - Construction - Full student work day

**Day 13** - Testing and Evaluation - Students test and evaluate their prototypes and continue to fill our journals. Review study guide prior to exam

 **Day 14-16 -**  Final Unit Exam and Student Presentations - Spend needed time to have students present their prototype and engineering journal to present their learning and receive final grade. While presenting they should finish study guide or study to prepare for unit test. Spend one of the class periods to complete test.