

COURSE: Principles of Applied Engineering

UNIT OF STUDY: Intro. / Engineering Design

TEACHER: Rick Ortiz

PROJECT SCOPE: 21-AUG-2017 – 28-AUG-2017

STANDARDS ADDRESSED: HS.CTE.O.PAE: 2.D, 2.E, **2.G**, 3.A, 3.B, 4.A

STUDENT OBJECTIVES:

- Students will compare and contrast the Scientific Method with the Engineering Design Process.
- Students will complete self-paced Kill the King project using the Engineering Design Process.
- Students will develop design challenge solution.
- Students will prototype and test their design challenge solution.
- Students will document their daily progress and outcomes in their digital engineering notebook.

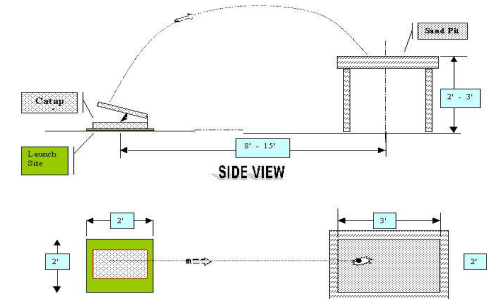
PROJECT TITLE: Kill the King

INSTRUCTIONAL MATERIALS:

Student workstation, Wooden Tongue Depressors, Plastic Spoons, Rubber Bands, Internet Access

PROJECT BRIEF: Students will construct a catapult that shoots Ping-Pong balls using the *Engineering Design Process*. Students will be limited to the use of: 12 rubber bands, 8 tongue depressors, and 1 plastic spoon.

- Students will prototype and test their design challenge solutions.
- Students will compete against their peers based on the following categories:
 - Craftsmanship (20%)
 - Aesthetics (20%)
 - Time Management (10%)
 - Functionality (50%)



Cross-Curricular Connection: 112.34.b.1; Scientific Method

ASSESSMENT:

T: Direct observation; observation checklist.
S: Engineering notebook reflection and documentation.

INSTRUCTIONAL STRATEGIES:

Blended Learning, Self-Paced PBL, Technology, Collaborative Learning

DIFFERENTIATED INSTRUCTION SUPPORT:

Provide accommodations to students in accordance with IEP.
Instructional aides (videos, graphic organizers, etc.) provided for ELL'