

The Imagineers

INTRODUCTION

Each semester, Engineering 215 (ENGR 215) students work with a client to create solutions for design problems. This semester, Spring 2016, ENGR 215 was paired up with Zane Middle School in Eureka, CA. The Imagineers were tasked to design a wedging table for Ken Weiderman's ceramics unit in his art class.

OBJECTIVE

The objective of this project is to provide our client with a portable and useful area to wedge clay during the ceramics portion of their art class.

CRITERIA

Table 1 compares criteria and respective weights which we took into account when designing alternative solutions.

Table 1: Weighted criterion.

Criterion	Weight (0-10)
Safety	10
Portability	9
Sturdiness	8
Cost	7
Durability	7
Sustainability	5
Aesthetics	3

- Safety- No hazardous materials
- Portability- Easily movable, ability to be stationary
- Sturdiness- Should be securely assembled
- Cost- Should not exceed a budget of \$300.00

- Durability/Longevity- Little maintenance required, wear and tear resistant
- Environmental Impact/Sustainability- Reusable items are preferable
- Aesthetics- Should be aesthetically pleasing

FINAL DESIGN

The Imagineers' final design is called "Wedge and a Ledge." It is a wedging table for the art class at Zane Middle School. This alternative was picked with the Delphi Method. This design most appropriately meets the criteria stated in Table 1.

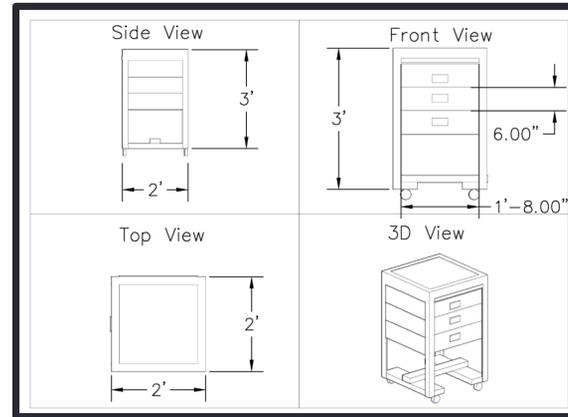


Figure 1: Four views of our chosen alternative design.



Figure 2: The Imagineers and Wedge and a Ledge almost completed

"Wedge and a Ledge" turned out very similar to our projected design. Ken Weiderman is extremely happy with the final product and we are all excited to see it put to use.

ACKNOWLEDGMENTS

- KEN WEIDERMAN • MARTY REED •
- COLIN WINGFIELD • CAMILLE PENNY •
- ALMQUEST LUMBER • ARCATA SCRAP AND SALVAGE •

COSTS

Table 2: Cost spreadsheet

Item	Cost (\$)	Quantity	Total (\$)
Casters	7.99	4	31.96
Hinges	5.39	4	21.56
Screws for casters	0.22	16	3.52
Aluminum legs	7.50	2	15.00
Screws for hinges and plaster box	Donated	1/2 pound	0
		2 boards	
		2 sheets of plywood	
Wood	Donated		0
Wood glue	Donated	1 bottle	0
Plaster of Paris	21.00	3 bags	63.00
Total			\$135

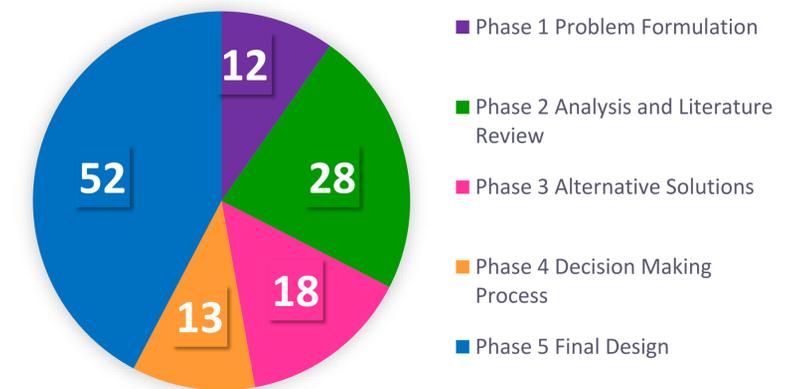


Figure 2: Project Hours by Phase

CONCLUSIONS

- Zane Middle School now has a useful a wedging table.
- Mr. Weiderman and students are now able to reuse clay.
- The wedging table has met the criterion of our client.