



# Build 'n Destroy

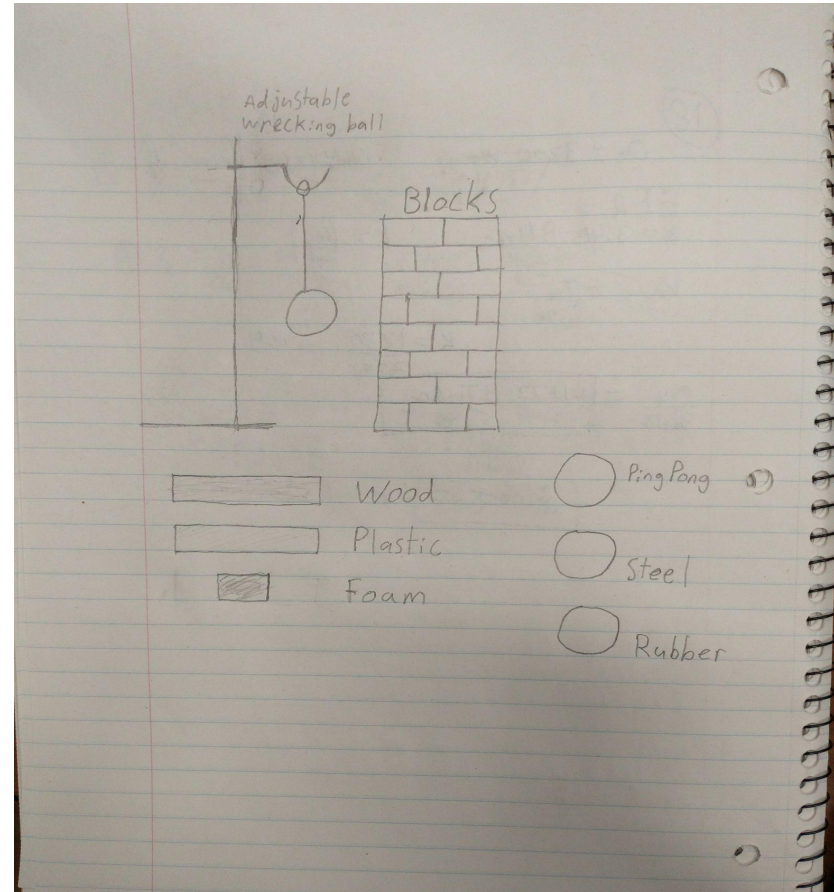
**Build 'em up and tear 'em down**

Bradley, Dylan, Mitchell, and Ellen



# Overview

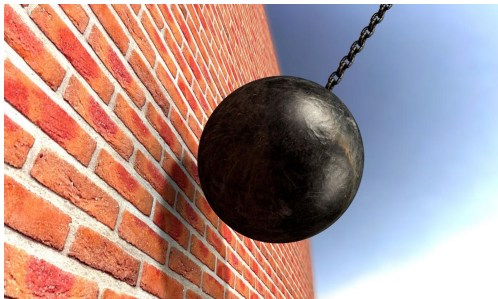
- Building toy
- Wrecking ball to destroy structure
- Different sizes and materials of wrecking balls



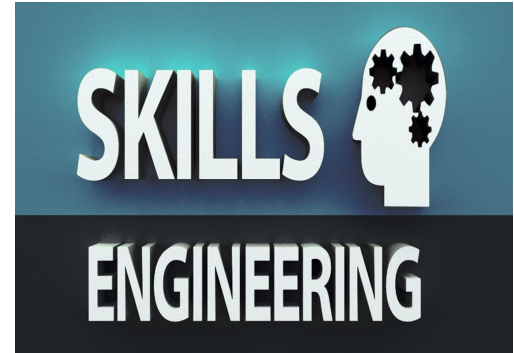
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## Engineering Skills

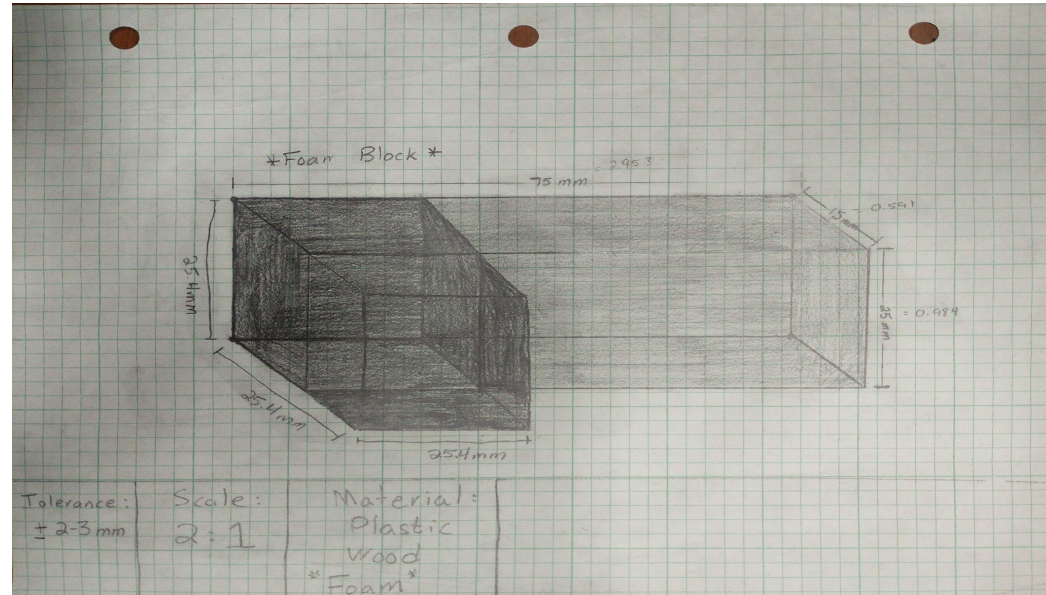
- Learn about forces on a rigid body
- Momentum
- Properties of Materials
- Stability



Based on the momentum of the ball which is  $p = mv$ , the stability of the structure will be determined by the type of material used to build it. The material chosen will also determine the amount of force required to knock over the structure based on the equation  $F = (mv)(\Delta t)$ .



# Design/Diagram

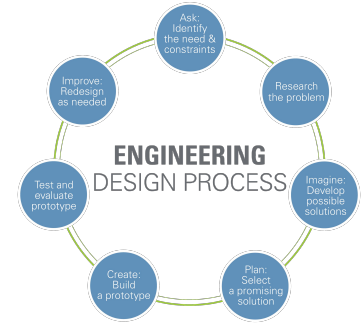


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# Assembly and Price of Prototype

Wood Blocks: \$8.00  
Foam Blocks: \$6.00  
Plastic Blocks: \$8.00  
Wrecking Ball Structure: \$2.00  
Ping Pong ball: \$0.42  
Steel ball: \$1.00  
Bouncy ball: \$0.50  
Nylon string: 0.018 ¢/ft  
Total cost: \$26.00

Selling Price: \$35.00

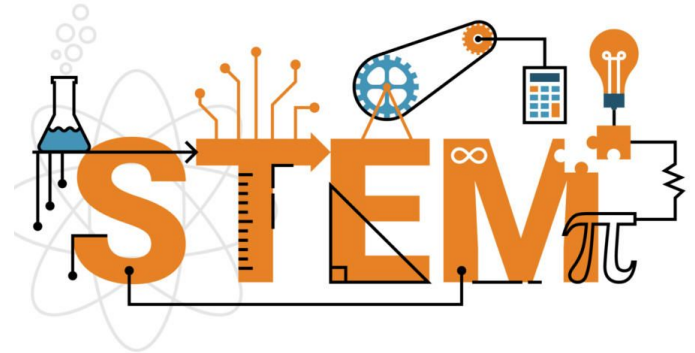






## Instructions for Use

- Use the blocks to build whatever shape and size of structure you want.
- After building, choose one of the three wrecking balls to use to destroy your structure. If it doesn't go down, try using a different ball or releasing from a different height.
- Build again!





## Cited Sources

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