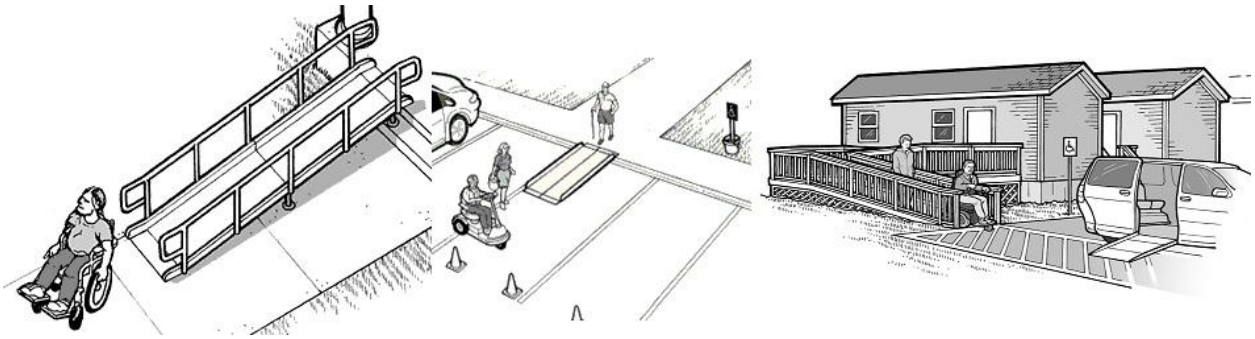
Name: _____ **Date:** _____ **Class:** _____

Portable Wheelchair Ramp Packet



http://www.ada.gov/votingchecklist.htm; http://www.ada.gov/emergencyprepguide.htm

Define the following terms

Structural engineering: _____

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Universal design: _____

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_____

Assistive device: _____

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Introduction

Your best friend has recently lost the ability to use his/her legs and now relies on a wheelchair for mobility. Her/his parents have added ramps to their house to make access easier, but it is very difficult for your friend to visit your home and the homes of other friends where ramps are not permanently installed.

Client Statement

Create a portable ramp that can make typical houses and other buildings temporarily handicap accessible. The ramp should be light, easy to transport, easy to operate, safe and versatile.

Problem Statement (Define the problem in detail)

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Revised Problem Statement (Definition of the problem in detail including client modifications)

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Functions (what the product does)

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Objectives (What the product is)

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Constraints (The product must or must not)

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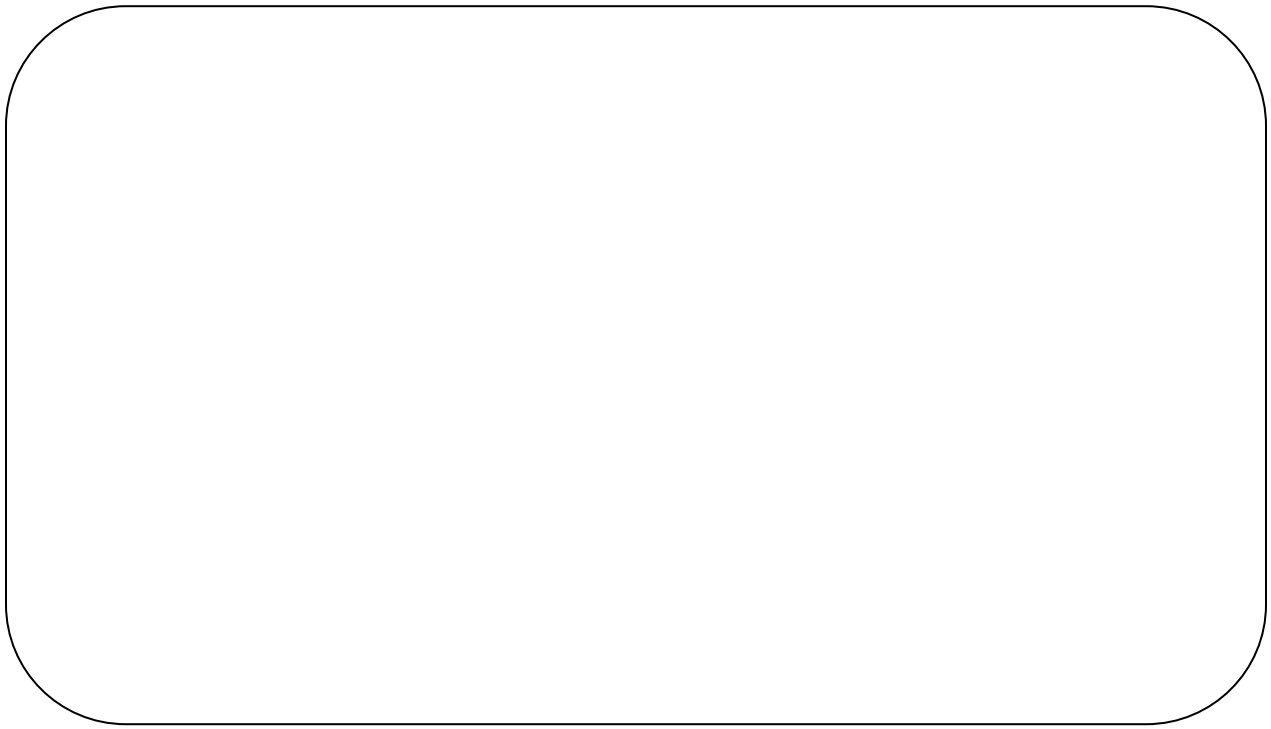
Background Research

As homework, use the internet to research current wheelchair ramp designs, wheelchair ramp standards, ramp materials, and other related topics. Record relevant material and the source websites.

Design Solutions (Sketch and describe 3 possible solutions)



Design #1

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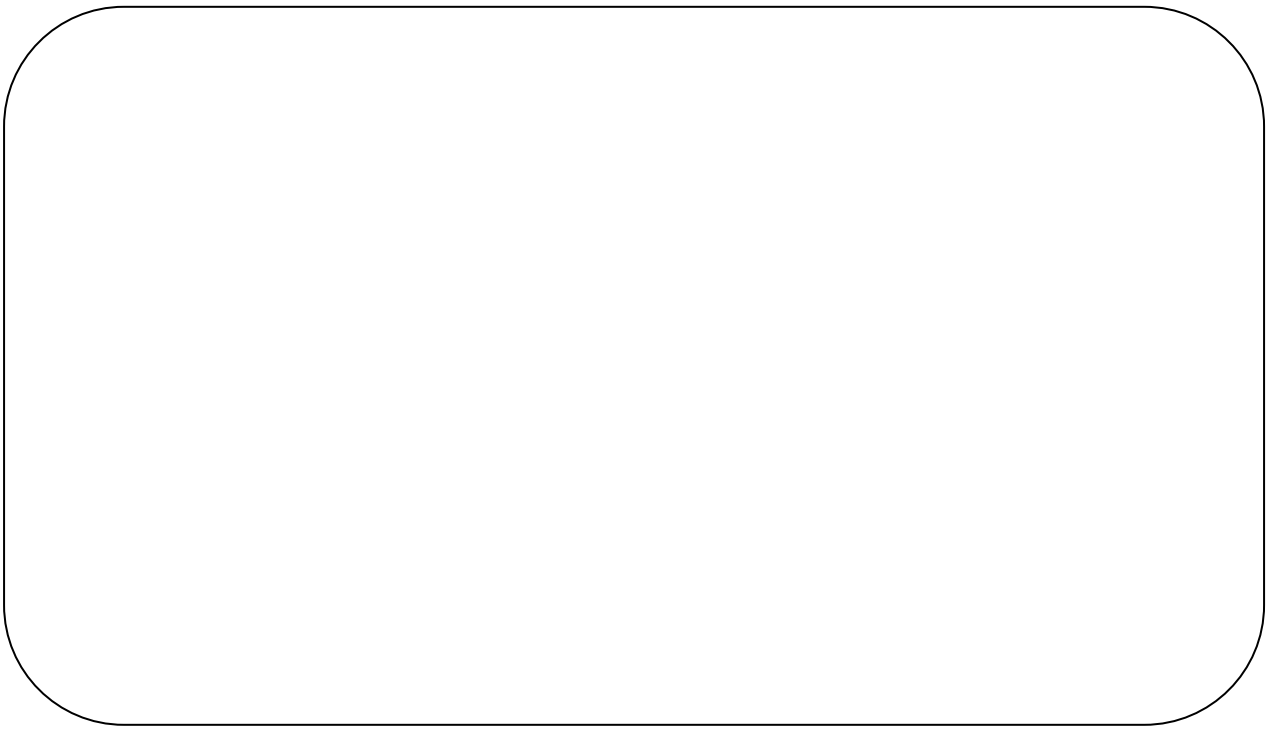
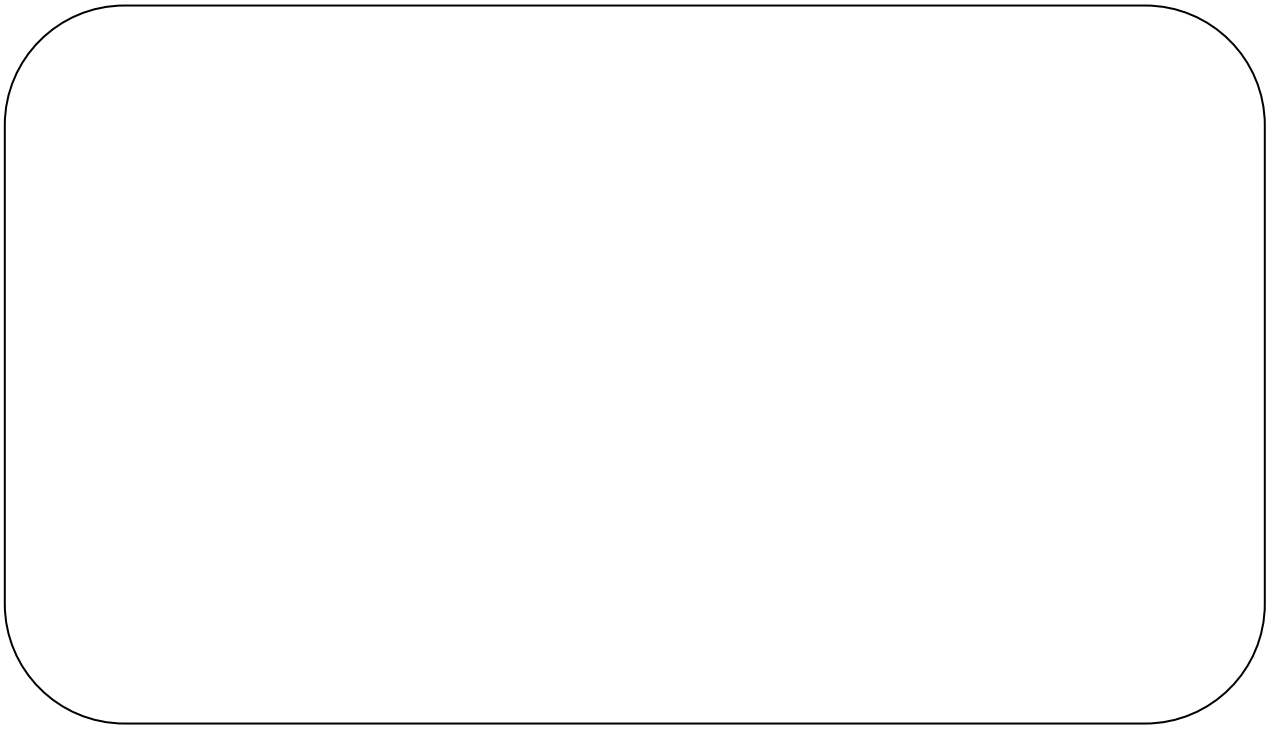


Design #2



Design #3

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Prototype Creation (describe why you chose the design you did)

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Test Design

1. Place the ramp prototype between two desks.
2. Use the load applicator to apply increasing weights to your ramp.
3. Apply weight to the middle of the ramp until the device holds the minimum required weight based on the problem statement.

Test Results

(Description of test results) _____

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***Evaluation* of Results** (Was your design effective? How do you know?)

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Future Recommendations (What you would recommend for future research)

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