



Survival Island

Problem Solving Activity

Introduction: The ship you have been traveling on has wrecked in a violent storm and you now have nothing to survive. Your survival supply chest is at the bottom of a very steep and dangerous cliff with no way to easily retrieve it.

Objective: You need to design and create a simple machine that will allow you to pick up a given weight (supply chest) onto the given table (island) without directly attaching and lifting the chest. Your ingenuity and survival skills are being put to the test.

Parameters: Contraption can only be created from recyclable or reusable materials; nothing new.

Material Suggestions:

- Any recyclable or reusable material. Please be careful if you use metal, it can be sharp.
- Ex. plastic bottles, cardboard, paperboard, old shoe laces, etc.
- Hot glue
- String or fishing line
- Wire
- Rubber bands
- Pencils or dowels
- Duct tape
- Paper clips
- Scrap wood

Distance Scoring:

Distance-Height: (Suggestion 24"- 36")

Points/Grade:

Hooks chest and attempts to lift it

D

Lifts chest half way up the distance chosen

C

Lifts chest to table's edge

B

Lifts and places chest (weight) onto the table

A

Grading Criteria (Portfolio):

Rendering (colored drawing)

Prototype (contraption)

Performance (video)

Presentation (optional: use Mi@H guidelines as reference)

Total Points: _____ / 100