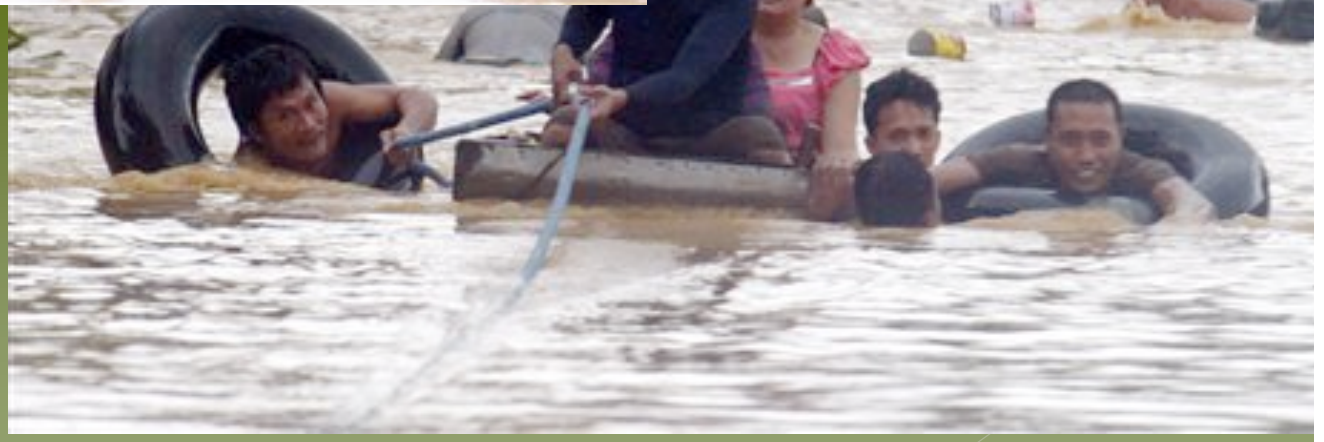

Flood
Bag
Green A

The Problem

Keeping belongings dr

Keeping family together



Benchmarking

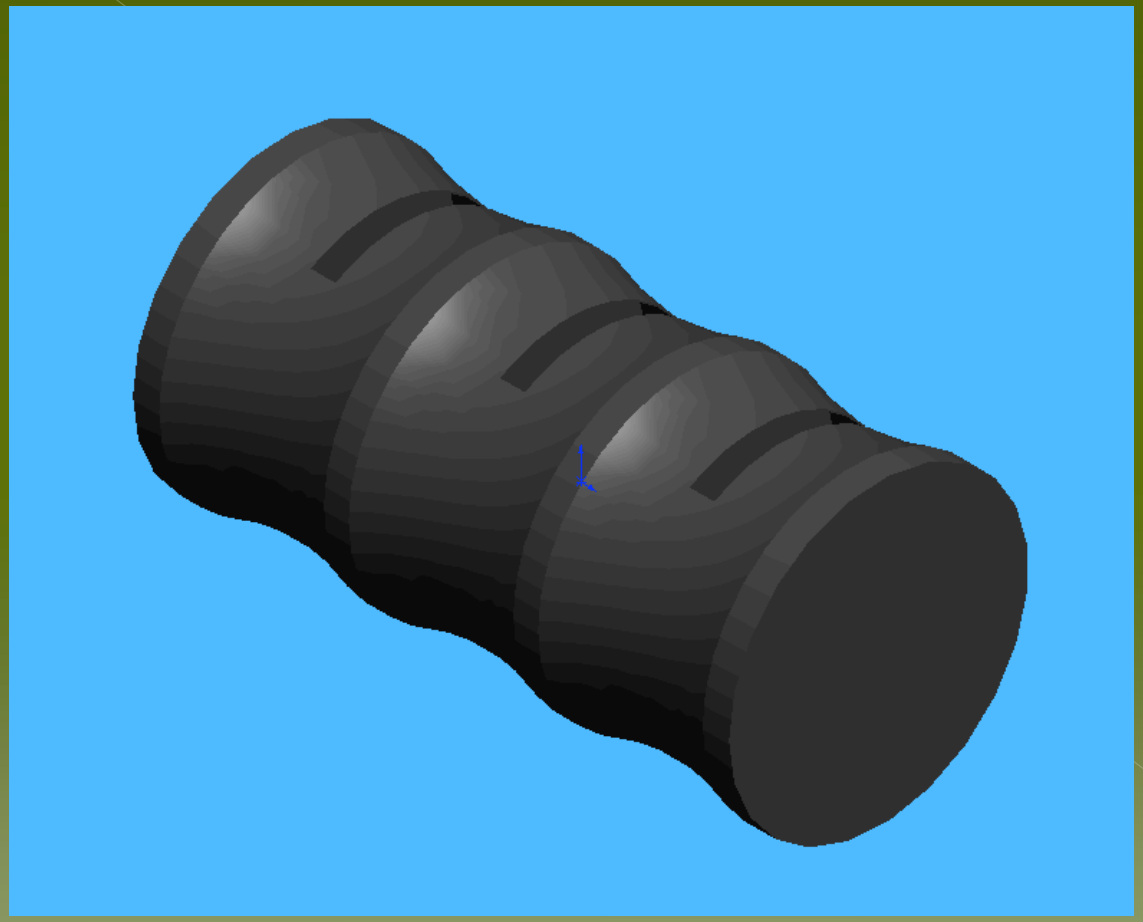
Abandon Ship Bag for Valuables

$150

Family-Sized Floatation Devices

$100

Solution



Will the bag float?

What is the most stable shape?

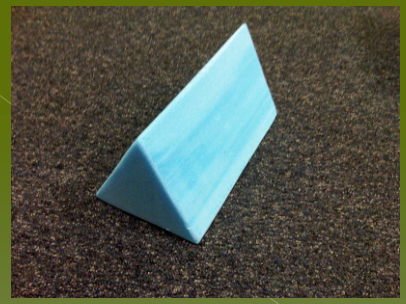
Spreadsheet

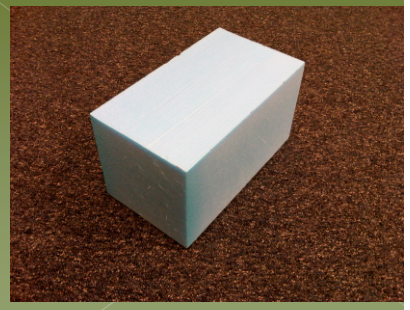
Stability Spreadsheet: Sketch Model

Green A

Cylindrical Barrel				
Buoyancy				
Weight of Bag	lb	kg		
Person 1	160	72.7272727		
Person 2	160	72.7272727	note:	Load bag in order: 1,3,2,4
Person 3	160	72.7272727		
Person 4	160	72.7272727		
Valuables	20	9.09090909		
Floating Height				
Percentage of body mass above water			0.33333333	average, assume balanced
Percentage of barrel above water level			0.5	
Bag Design				
Aspect Ratio (L/D)			2	
Force Balance				
Gravity		1040.45455	N	
Buoyancy at equilibrium		1040.45455	N	
Volume of water displaced		0.10606061	m3	
Volume of floatation device		0.21212121	m3	
Diameter of barrel		0.51313088	m	20.0121042
Length of barrel		1.02626176	m	40.0242085
Stability				
Mass of head	15	6.81818182		
Ratio of Above Surface Mass (Side 1/Side 2)			1	
Mass above water of Side 1		213.333333		
Mass above water of Side 2		213.333333		
Will it kill the fat guy?		NO		

Scale models





How can it be made waterproof?

Next Steps

Finding a watertight approach at sealing

Designing a reinforced, collapsible bag structure

Clarify the market:

developed and/or developing world?

Questions?