

Name: _____

Date: _____

Period: _____

Shipping & Sliding Analysis

Complete the following Chart based on the data you collected in Experiment #2 to show your control and the top 3 materials used which create the most friction.

	Material	Average mass to move block	Force of Friction
Control			
#1			
#2			
#3			

Colossal Shipping Company is providing you with the following information about their shipping containers. They have decided to use the 40 foot container as it provides the greatest volume in which to ship the TVs. Calculate the surface area of the floor you will need to cover to provide a higher friction surface. **Show your calculations here.**

10' Container

Payload 30,000 lbs.
Tare weight 3,500 lbs.
Cubic Capacity: 582 cu.ft.

Exterior Dimensions
L: 10'
W: 8'
H: 8' 6"

Interior Dimensions:
L: 9' 5"
W: 7' 8" - 1/8"
H: 7' 9" - 5/8"



20' Container

Payload 48,600 lbs.
Tare weight 5,015 lbs.
Cubic Capacity: 1,164 cu.ft.

Exterior Dimensions
L: 20'
W: 8'
H: 8' 6"

Interior Dimensions:
L: 19' 5"
W: 7' 8" - 1/8"
H: 7' 9" - 5/8"

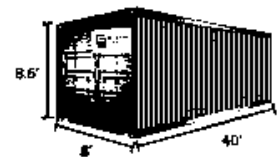


40' Container

Payload 80,350 lbs.
Tare weight 8,377 lbs.
Cubic Capacity: 2,376 cu.ft.

Exterior Dimensions
L: 40'
W: 8'
H: 8' 6"

Interior Dimensions:
L: 39' - 3/8"
W: 7' 8" - 1/8"
H: 7' 9" - 5/8"



Complete the following chart:

Materials	Surface Area	Cost of Application	Durability	Cost per year
Sheet Metal		\$0/sq. ft.	No replacement	
60 Grit Sandpaper		\$2/ sq. ft.	Replace twice/year	
220 Grit Sandpaper		\$3/ sq. ft.	Replace 3x/year	
Shelf Paper		\$3/ sq. ft.	Replace 4x/year	
Wall Paper		\$3.50/ sq. ft.	Replace twice/year	
Scrubie		\$2.25/ sq. ft.	Replace once/year	
Cardboard		\$1.75/ sq. ft.	Replace 4x/year	
Wax Paper		\$2.50/ sq. ft.	Replace 6x/year	
Aluminum Foil		\$3.75/ sq. ft.	Replace 5x/year	

On the back of this paper choose the material you believe will provide Colossal Shipping Company with the best choice for a floor covering in their containers used to ship these expensive TVs.
Provide evidence for your choice.

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Exit Ticket – Shipping & Sliding Analysis

In your final analysis for Colossal Shipping Co. did you choose the material with the highest force of friction or the least expensive material or did you make some type of compromise? What was your choice and why.

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