

Name: _____

Name: _____

Name: _____

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Cargo Transport Project Checklist

This checklist will be turned in everyday to show your group's progress on the assignment. Please use a pencil to update.

Objective

Design and construct a transport system using provided materials that can safely and efficiently deliver ping pong balls across a 15ft valley.

Constraints

- Must travel across a 15-foot gap between the starting point and the destination (same elevation)
- Must be able to self-power i.e no pushing, throwing
- Safely: without the balls falling off into the valley, without stopping midway
- Efficiently: balls (6 minimum) can be loaded and unloaded quickly

Individual Brainstorming	Team Brainstorming
<p>Free association and one other strategy</p> <ul style="list-style-type: none"><input type="checkbox"/> I have NOT YET started<input type="checkbox"/> I have written down my free association solutions<input type="checkbox"/> I have written down solutions from ONE of these additional strategies<ul style="list-style-type: none"><input type="checkbox"/> Random Stimulation<input type="checkbox"/> SCAMPER<input type="checkbox"/> Others' Points of View<input type="checkbox"/> Cross Fertilization	<p>Progress</p> <ul style="list-style-type: none"><input type="checkbox"/> We have NOT YET started<input type="checkbox"/> We have shared our different individual solutions<input type="checkbox"/> We have chosen our favorite solution<input type="checkbox"/> We have applied Solution Pivot to that solution (and drawn out a solution pivot tree diagram)<input type="checkbox"/> We have reviewed our Solution Pivot with a teacher
Design Sketch	Building and Testing
<p>Sketch a design based on your individual and team brainstorming</p> <ul style="list-style-type: none"><input type="checkbox"/> We have NOT YET started<input type="checkbox"/> We have started drawing and labeling our design<input type="checkbox"/> We have finished drawing and labeling our design	<p>Progress</p> <ul style="list-style-type: none"><input type="checkbox"/> We have NOT YET started<input type="checkbox"/> We have started building<input type="checkbox"/> We have tested once<input type="checkbox"/> We have tested twice

Cost Analysis

Materials	Quantity	Cost	Your Transport Cost
Ping Pong Balls	6 minimum	Free	
Balloon	1	Free	
Paper cups	2	Free	
Straws	1	Free	
Tape	24 inches	\$1/inch	
Cardboard (5"x7")	1	\$10	
Popsicle sticks	10	\$3/each	
Paper clips	4	\$1/each	
Binder clips	2	\$2/each	
Propellor	1	\$5/each	
Rubber bands	5	\$1/each	
Plastic Bag	1	\$5	
String	24 inches	\$1/inch	
Additional material(s)	2	\$___	
TOTAL COST	Add up values		

Performance Score

Best Performance	Possible Points	Your Score	Documentation
Each ball transported 15 feet	100 points		<input type="checkbox"/> Evolution of Prototype (minimum number of photos) <input type="checkbox"/> Photo #1 <input type="checkbox"/> Photo #2 <input type="checkbox"/> Final Photo <input type="checkbox"/> Video of best performance
Each dropped ball	-200 points		
Total points for team	Add up values		

Performance Index (PI)

$$\frac{\text{Total points for team}}{\text{TOTAL COST}} = \text{Performance Index}$$