

Name:

Date:

Class:

Step #2: RESEARCH

Explore articles, diagrams, and different sources while answering the questions below.
Useful words: strength, durability, structure, weave, plywood

Question	Research Findings
How does structure change strength?	
What changes can we make to the paper?	
What techniques can I use to increase the strength of the paper?	

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Step #3: IMAGINE

Individually sketch and label a model for a paper backpack strap design.

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Step #4: PLAN

After completing the Decision Matrix for looking at each group member's design, draw your group's final model of a strong and eco-friendly strap below. Use words, colors, and labels to explain your model.

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Step #5: CREATE		
What roles will each of your group members play in the creation process?		
What roles are needed to accomplish your goal?	What does the person do in this role?	Group Member Name
Role #1:		
Role #2:		
Role #3:		
Role #4:		

Step #6: TEST	
7 kg Strap Test	Strap failed immediately with 7 kg. Observations: <input type="checkbox"/>
	Strap supported 7 kg initially but failed. Observations: <input type="checkbox"/>
	Strap supported 7 kg with no failure. Observations: <input type="checkbox"/>

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Step #7: IMPROVE

Based on your testing data, work with your group to decide 1-2 design features you would like to change or improve about your current strap model.

Feature #1

Final Model:

Feature #2

Name:

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Reflection

1. Describe a challenge you and your group faced anytime during the Engineering Design Process? How did your team overcome the challenge?

2. Glows: Provide two examples from the project that YOU are proud of. Explain.

3. Grow: Provide 1-2 examples of an area YOU would like to improve while working on this project with your team. Explain.
