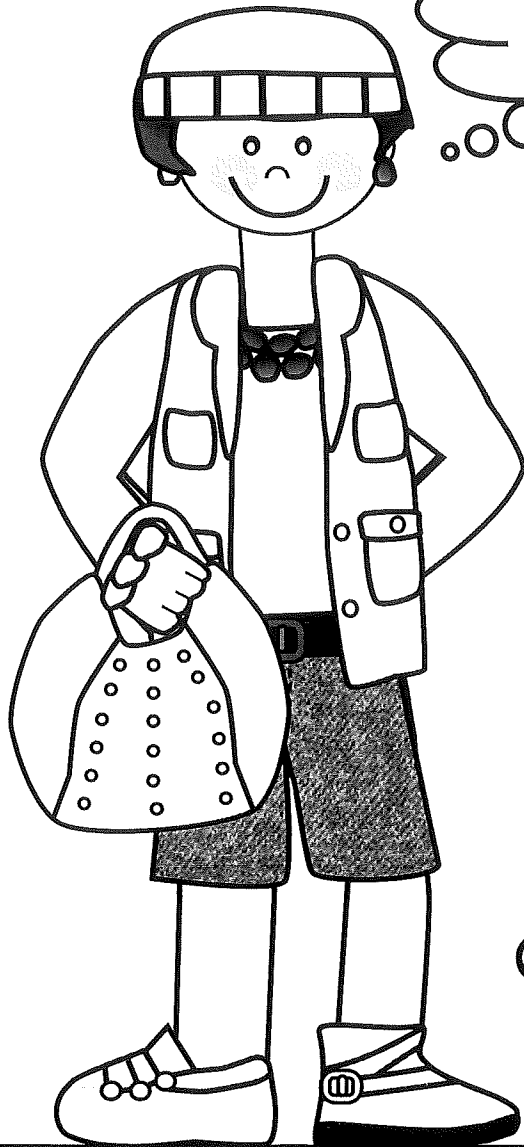


Be unique! Be creative!
Think outside the box!



Science
Technology
Engineering
Art
Math

's STEAM

JOURNAL

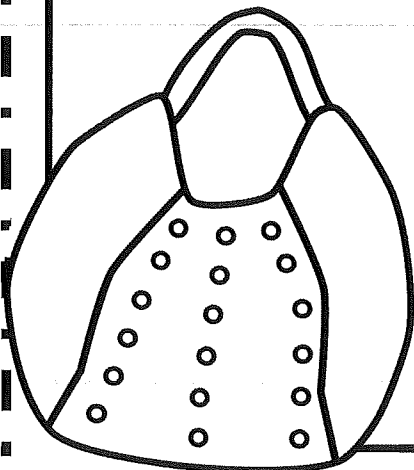
© 3E Enrich-Engage-Enjoy

Name _____

Name of Activity:

My Goal (*What am I trying to do?*)

My Materials



My Constraints:

*These are the things
I must do.*

*These are the things
I may not do.*

Name _____

The Engineering Process

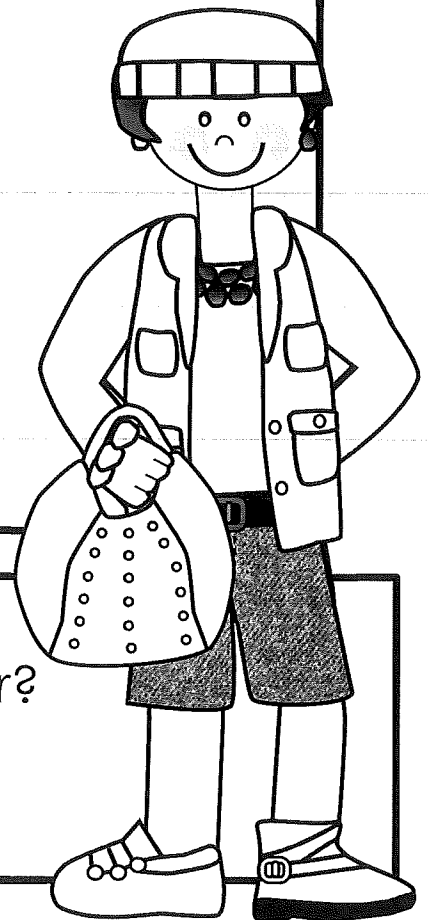
1. PLAN – How can you achieve your goal?

2. CREATE– Draw and label a diagram of your idea.

4. EVALUATE – Describe your design's strengths or weaknesses.

3. TEST–
What did you observe?

5. IMPROVE – What changes can you make so that your design will be even better?



Name _____

Looking Back

Color the face to show how you feel.

1. I had many ideas about how to solve this problem.



2. I worked cooperatively with my team.

◆ We all helped.



◆ We listened to each other's ideas.



◆ We treated each other fairly.



3. Our design was successful.



4. I can think of ways to make our design even better.



Complete each sentence.

The hardest part of this challenge was _____

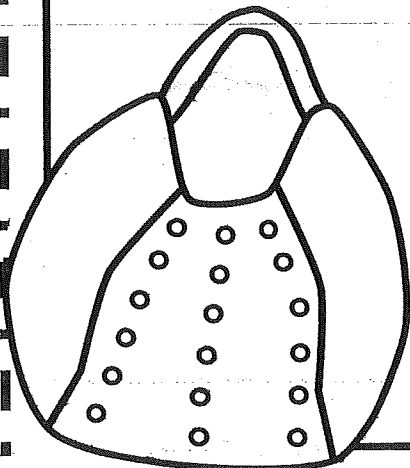
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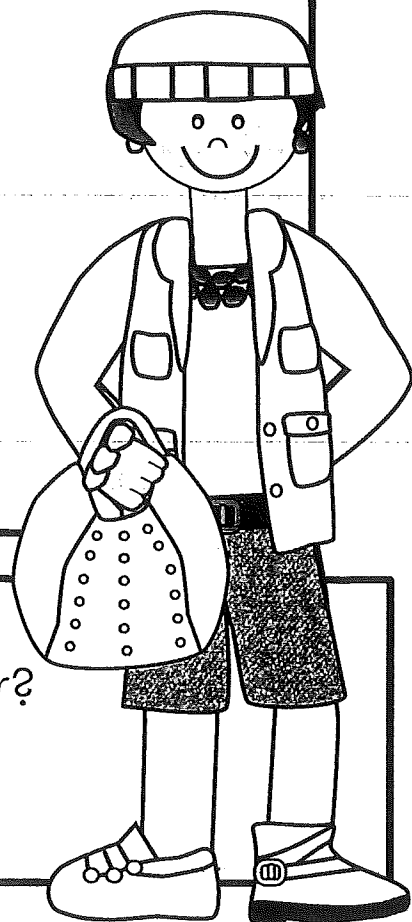
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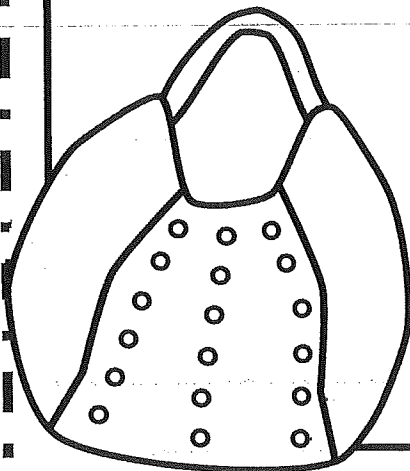
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The Engineering Process

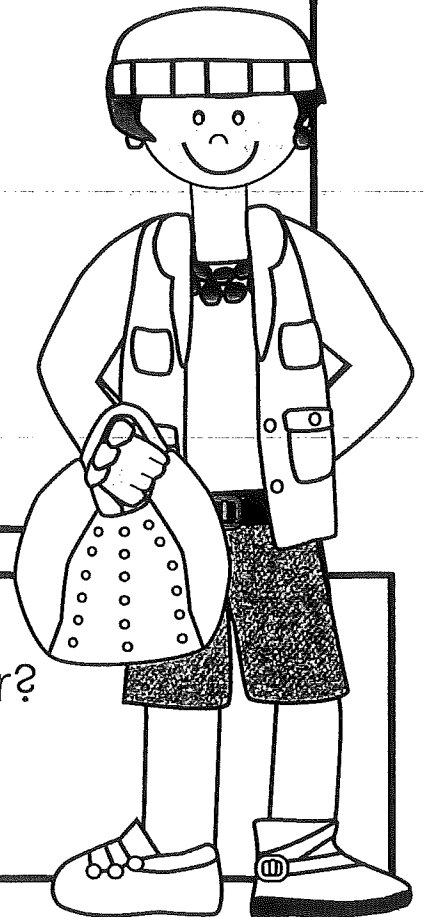
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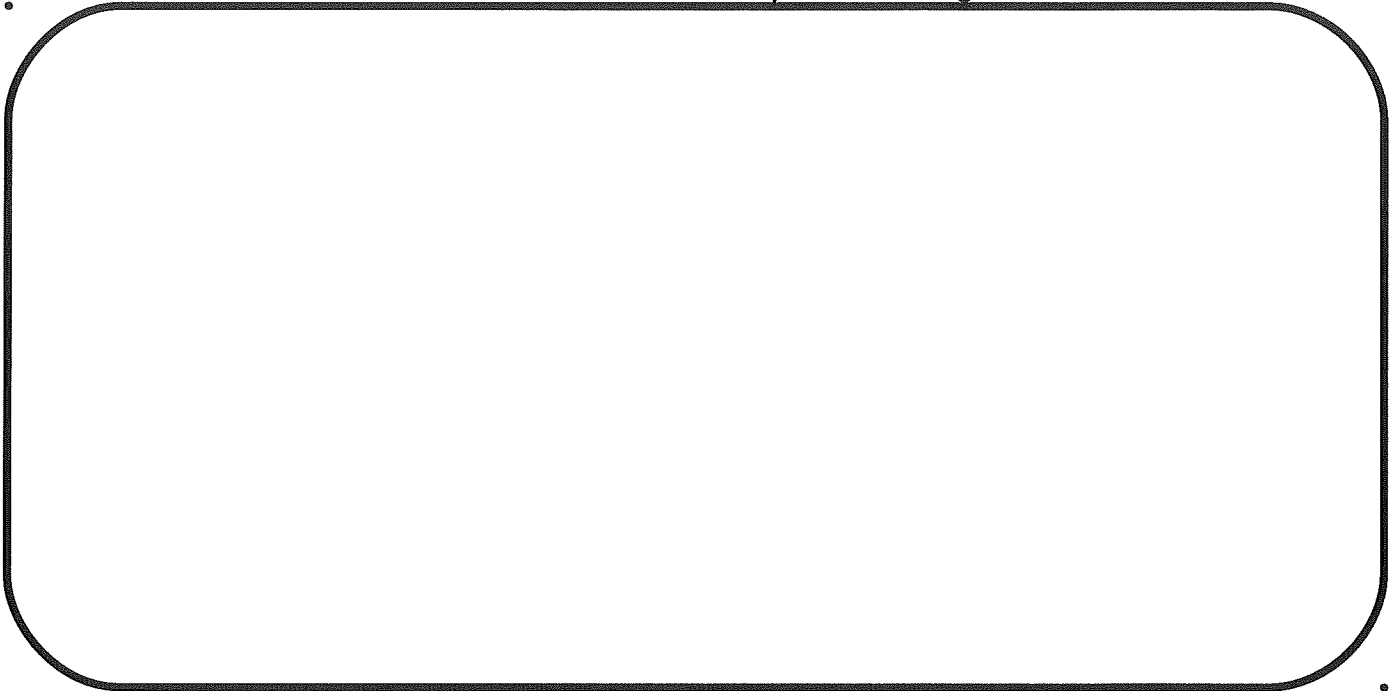
Craft Stick Launcher

Name: _____

Ask: Using a maximum of 10 craft sticks and 6 rubber bands, can you create a catapult that launches a small object?

Imagine: How can you arrange the craft sticks to create a lever and fulcrum? Brainstorm ideas.

Plan: Choose an idea. Draw and label your design sketch below:



Create: Construct the catapult based on your design.

Test: Launch a small object with your catapult. Make sure you aim away from any nearby people.

Was the object launched? _____

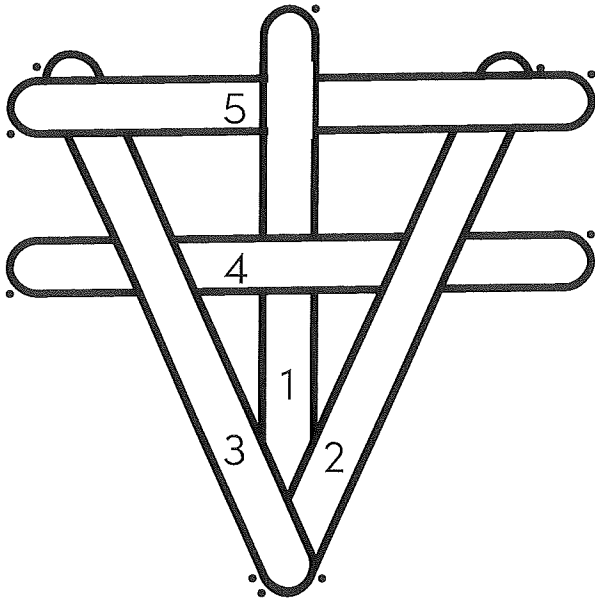
If yes, how far? _____

If not, how could you improve your design?

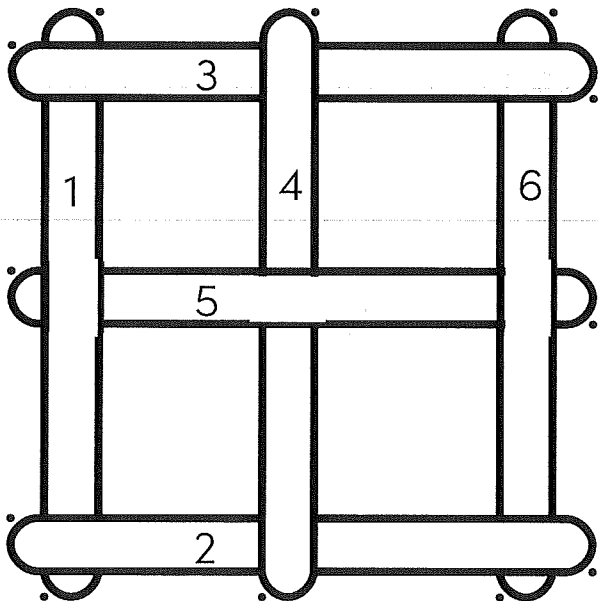
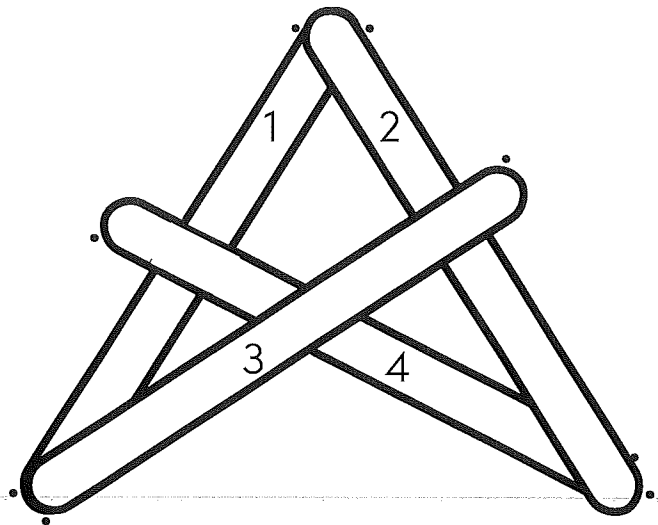
If it did launch, can you improve your design to launch your object farther?

Explode it! Craft Stick Bomb Design Guide

Numbers indicate suggested order of placing the sticks.

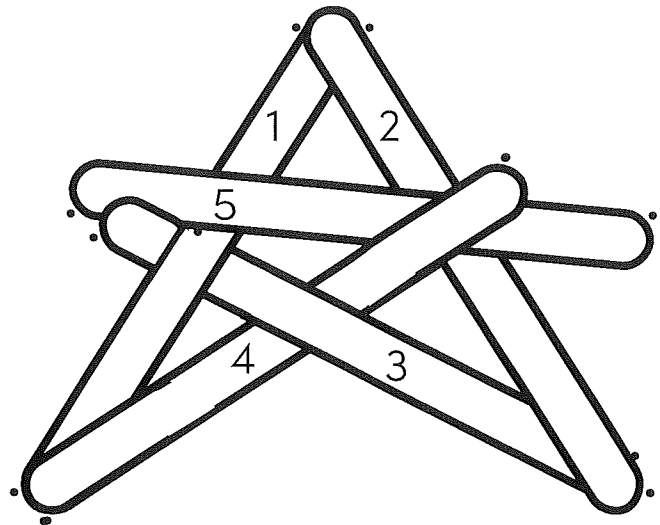
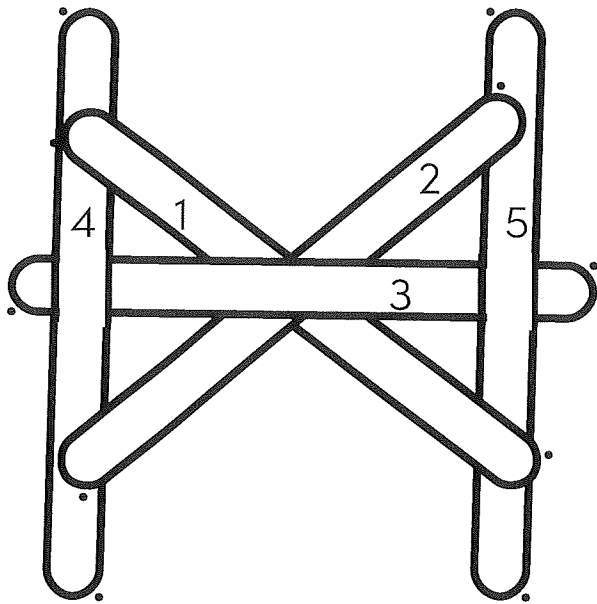


What happens if you move the horizontal sticks down?



Explode it! Craft Stick Bomb Design Guide

Numbers indicate suggested order of placing the sticks.



Tips:

- Weave over/under
- Use a finger to hold down sticks while you are working, to help keep the sticks you have already positioned in firmly in place.
- If you are having trouble weaving, try working on a carpeted surface.
- To increase tension, weave in a tighter pattern (less space between sticks).