

## Teamwork and Engineering Never Ends!

How did you work as a team to develop the best flying cups design and to invent a game using the flying cups? \_\_\_\_\_

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If you were going to keep making your prototype better, what modifications would you make next and why? \_\_\_\_\_

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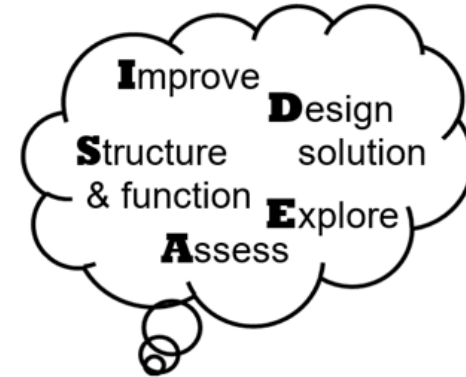
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a division of  Waters Center  
For Systems Thinking



## Flying Saucer Cups

Engineer: \_\_\_\_\_

Additional Engineering Team Member(s)

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Development of this STEM Challenge support by:



Designed by DaNel Hogan and Sherrie Dennis

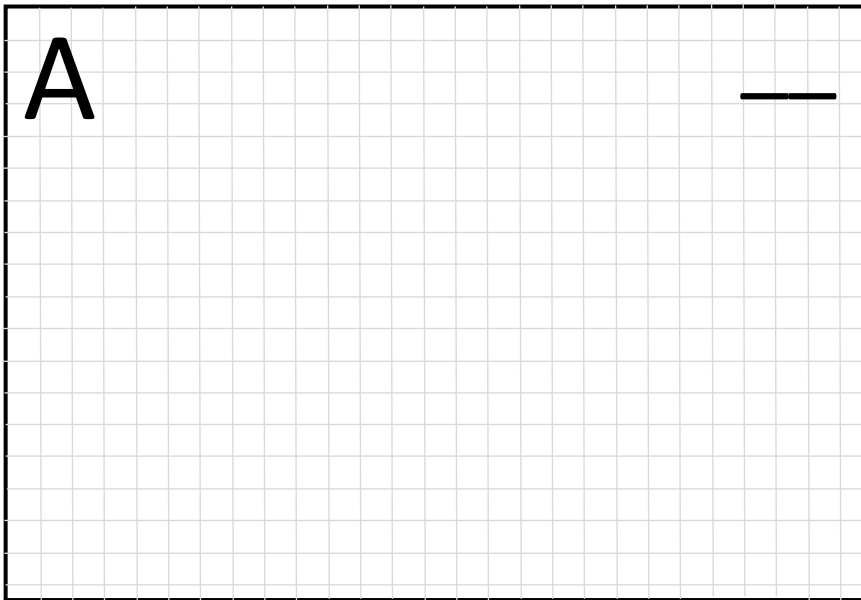
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## Flying Cups Original Design



### Performance Score (PS)

Record the formula everyone will use to calculate Flying Cup Performance Score below.

$$PS = \underset{\text{weight}}{\underline{\quad}} \times \underset{\text{distance}}{d} \left( \underset{\text{units}}{\underline{\quad}} \right) + \underset{\text{weight}}{\underline{\quad}} \times \underset{\text{time units}}{t} (s)$$

Decide which units you are going to measure the distance traveled in from the launch line. Then, decide on a weight for the distance and a weight for the time. Weight can be 1, 2, or 3.

## Let's turn it into a game!

Name of the game \_\_\_\_\_

Objective of the game \_\_\_\_\_

Rules of the Game/Scoring Points/Winning

Game Logo



## Final Prototype Design

Place Best Prototype Post here.

Description of function and form  
modifications made from original design.

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## Performance and Notes Original Design

Prototype Letter/Test	Dist. (____)	Time (s)	PS
A1			
Notes			
A2			
Notes			
A3			
Notes			
A4			
Notes			
A5			
Notes			

# IDEAS for Function Modifications

Can you make a part bigger/smaller?

Can you change the shape of a part?

Are there different materials you could use?

Can you make a part lighter/heavier?

Can you make a part longer/shorter?

Can you make a part wider/narrower?

Can you make a part stronger/weaker?

Did you notice something someone else tried that you could use?

Can you change the structure?

Can you eliminate/replace a part?

Can you add a part?

What could you change that might help?

What have you noticed while using it?

How could it function better?

# IDEAS for Form Modifications

Will adding color make it more appealing?

Can the appearance be changed to make it more appealing?

Are there different materials you could use?

Can you make it make a cool noise?

Can you make it sparkle?

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# Better Box

Place Prototype Posts with Performance Scores better than the Original Post here.

# Rejected Retangle

Place Prototype Posts with Performance Scores worse than the Original Post here.

## Performance and Notes

Modification made: \_\_\_\_\_

Prototype Letter/Test	Dist. (____)	Time (s)	PS
B1			
Notes			
B2			
Notes			
B3			
Notes			
B4			
Notes			
B5			
Notes			

