

## 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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### Flying Saucer Cups

Optimizing Flight Distance or Time



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

Additional Engineering Team Member(s)



Designed by DaNel Hogan and Sherrie Dennis

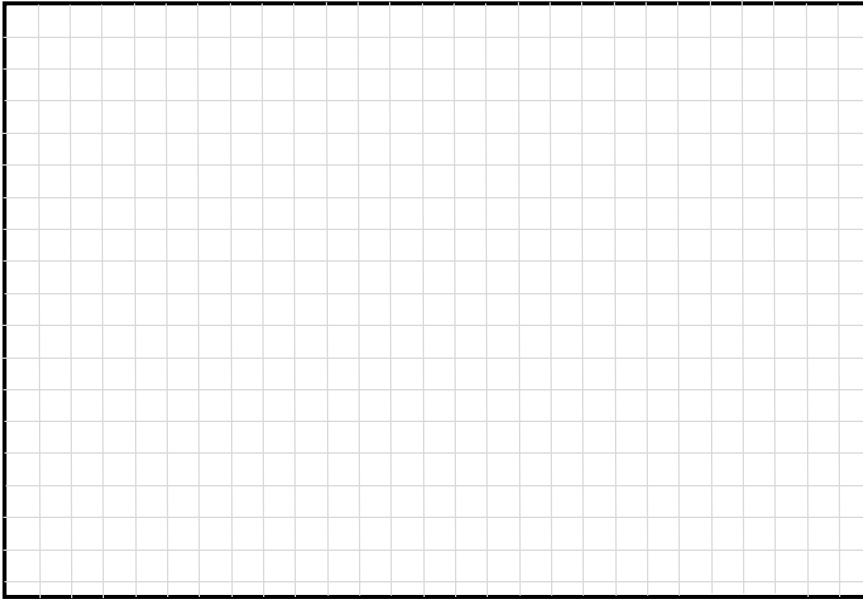
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# Flying Cups Original Design



## Flight Distance or Flight Time

Which performance measure will you be optimizing? \_\_\_\_\_

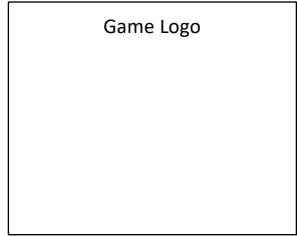
What units will you use? \_\_\_\_\_

Perform five launches of the Flying Cups original design you made and record the results below.

_____	_____	_____	_____	_____
Trial 1	Trial 2	Trial 3	Trial 4	Trial 5

Circle the original design's best performance trial above.

# Let's turn it into a game!



Game name \_\_\_\_\_

Game Objective (how do you win/lose) \_\_\_\_\_

## Rules of the Game/Scoring Points/Winning

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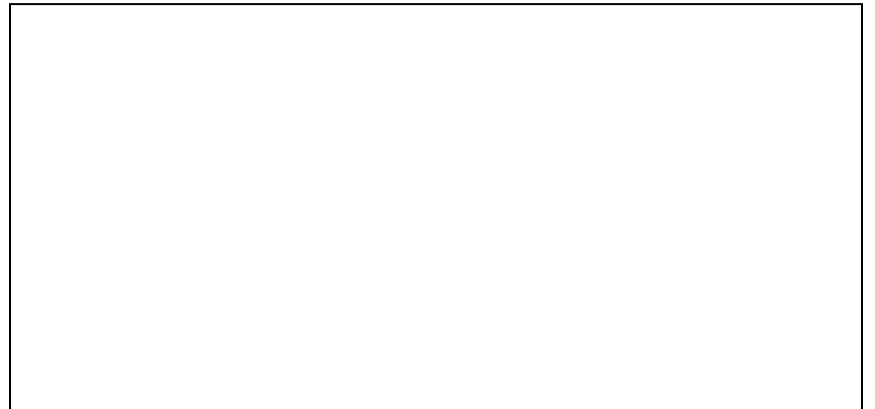
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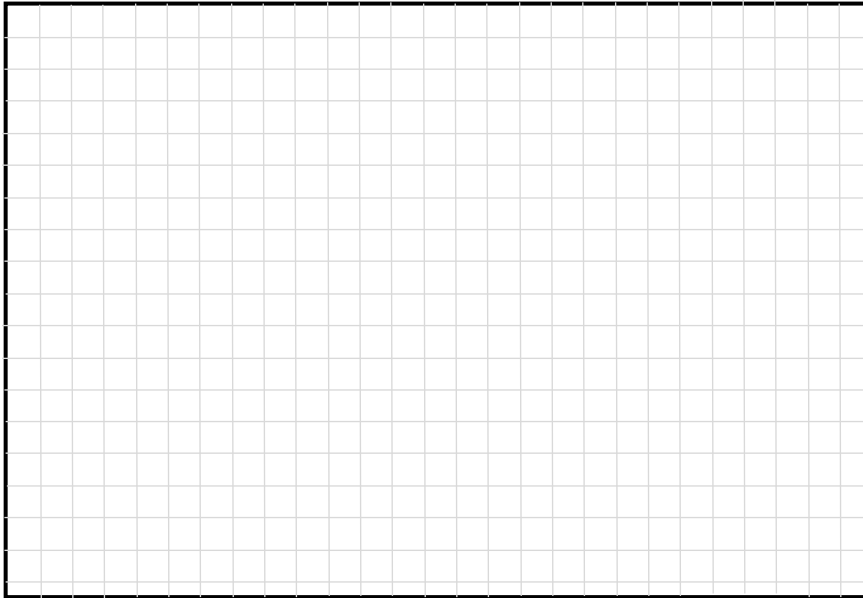
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## Diagram of Game Setup



# Final (for now) Prototype



Describe all the form modifications you made to your prototype to optimize its form without impeding its performance. \_\_\_\_\_

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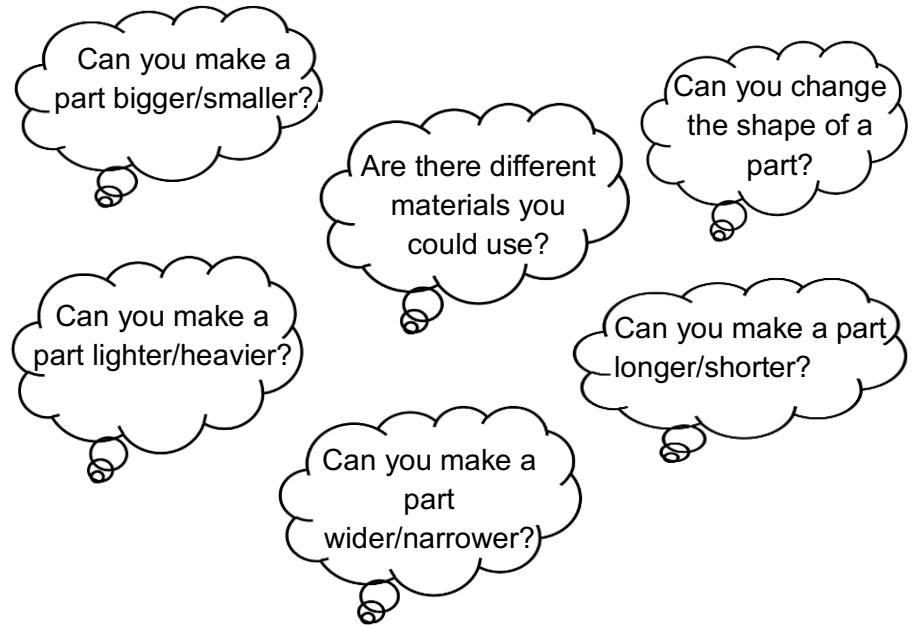
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# IDEAS for Function Modifications



# Quick Prototype Modifications (Fail fast, fail often!)

Describe Mod1: \_\_\_\_\_

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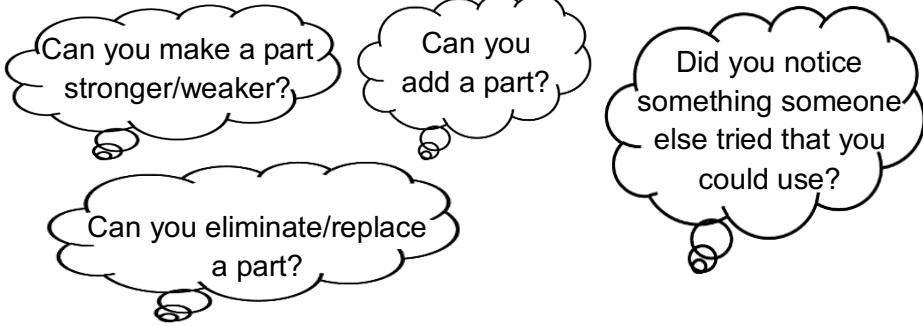
Trial 1	Trial 2	Trial 3	Trial 4	Trial 5

Circle best trial performance above.

Notes: \_\_\_\_\_

Mod1: Better or Boot (circle one)

# IDEAS for Function Modifications



Describe Mod2: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Trial 1      Trial 2      Trial 3      Trial 4      Trial 5

Circle best trial performance above.

Notes: \_\_\_\_\_

\_\_\_\_\_

Mod2: Keep or Kick (circle one)

Describe Mod3: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Trial 1      Trial 2      Trial 3      Trial 4      Trial 5

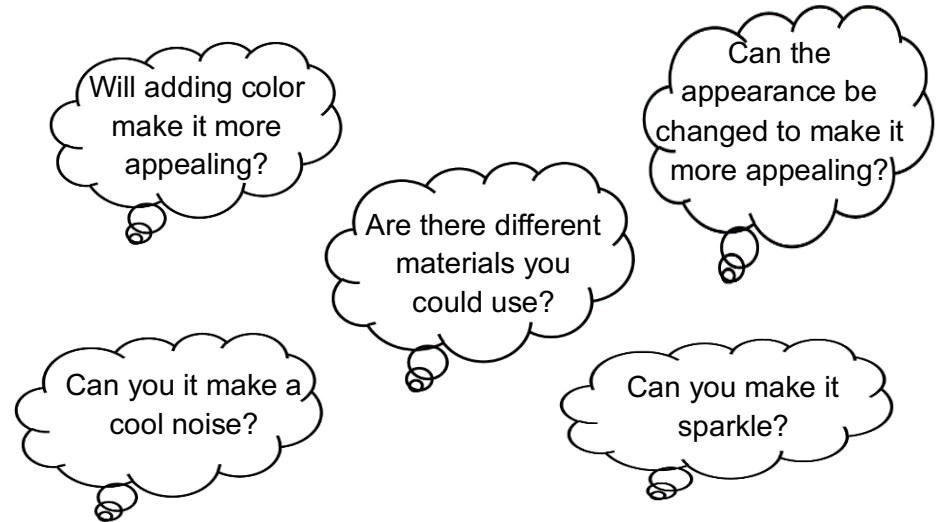
Circle best trial performance above.

Notes: \_\_\_\_\_

\_\_\_\_\_

Mod3: Better or Boot (circle one)

# IDEAS for Form Modifications



Beyond a great performance, we also want a design that looks and sounds cool. Brainstorm ideas below about form modifications you could make to your current best prototype to improve its form or style.

\_\_\_\_\_

\_\_\_\_\_

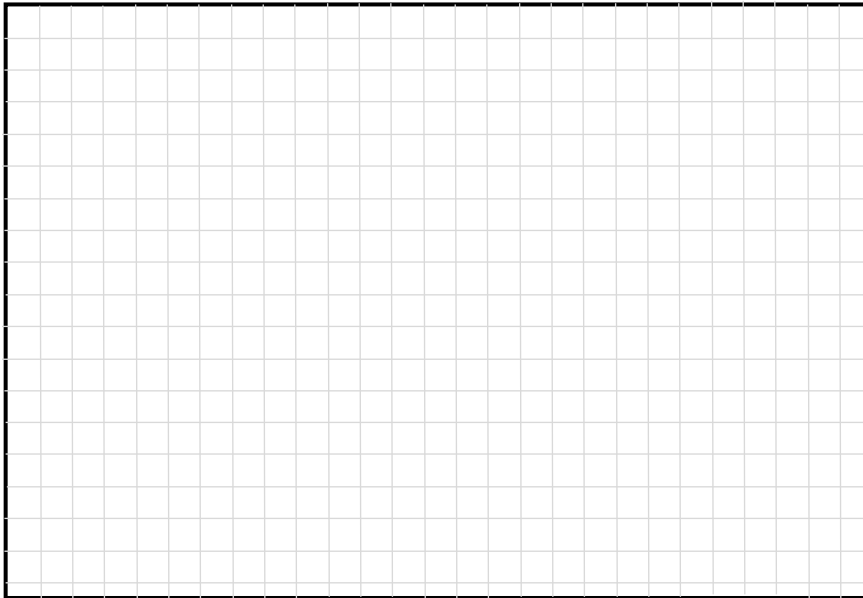
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Try some of them out! As you make form modifications to your best prototype, be sure to check its performance to ensure it still works as well as it did before.

# Best (so far) Prototype



Describe all the function modifications you made from the original design which optimized your flying cups best prototype performance.

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Describe Mod4: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Trial 1      \_\_\_\_\_ Trial 2      \_\_\_\_\_ Trial 3      \_\_\_\_\_ Trial 4      \_\_\_\_\_ Trial 5

Circle best trial performance above.

Notes: \_\_\_\_\_

\_\_\_\_\_

Mod4: Keep or Kick (circle one)

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Describe Mod5: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Trial 1      \_\_\_\_\_ Trial 2      \_\_\_\_\_ Trial 3      \_\_\_\_\_ Trial 4      \_\_\_\_\_ Trial 5

Circle best trial performance above.

Notes: \_\_\_\_\_

\_\_\_\_\_

Mod5: Better or Boot (circle one)

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Describe Mod6: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ Trial 1      \_\_\_\_\_ Trial 2      \_\_\_\_\_ Trial 3      \_\_\_\_\_ Trial 4      \_\_\_\_\_ Trial 5

Circle best trial performance above.

Notes: \_\_\_\_\_

\_\_\_\_\_

Mod6: Keep or Kick (circle one)

