

# CATAPULT DESIGN WORKSHEET

**Problem:** You are an engineer who specializes in designing cool toys and machines for games. You were recently contacted by the SuperFun Toy Company to help design a machine called a catapult for a game that will launch pennies at a tower stacked with cups. To ensure that children and adults alike will love the game, you need to make sure the catapult is both accurate and precise.

**Materials Available:**

12 rubber bands

2 plastic spoons

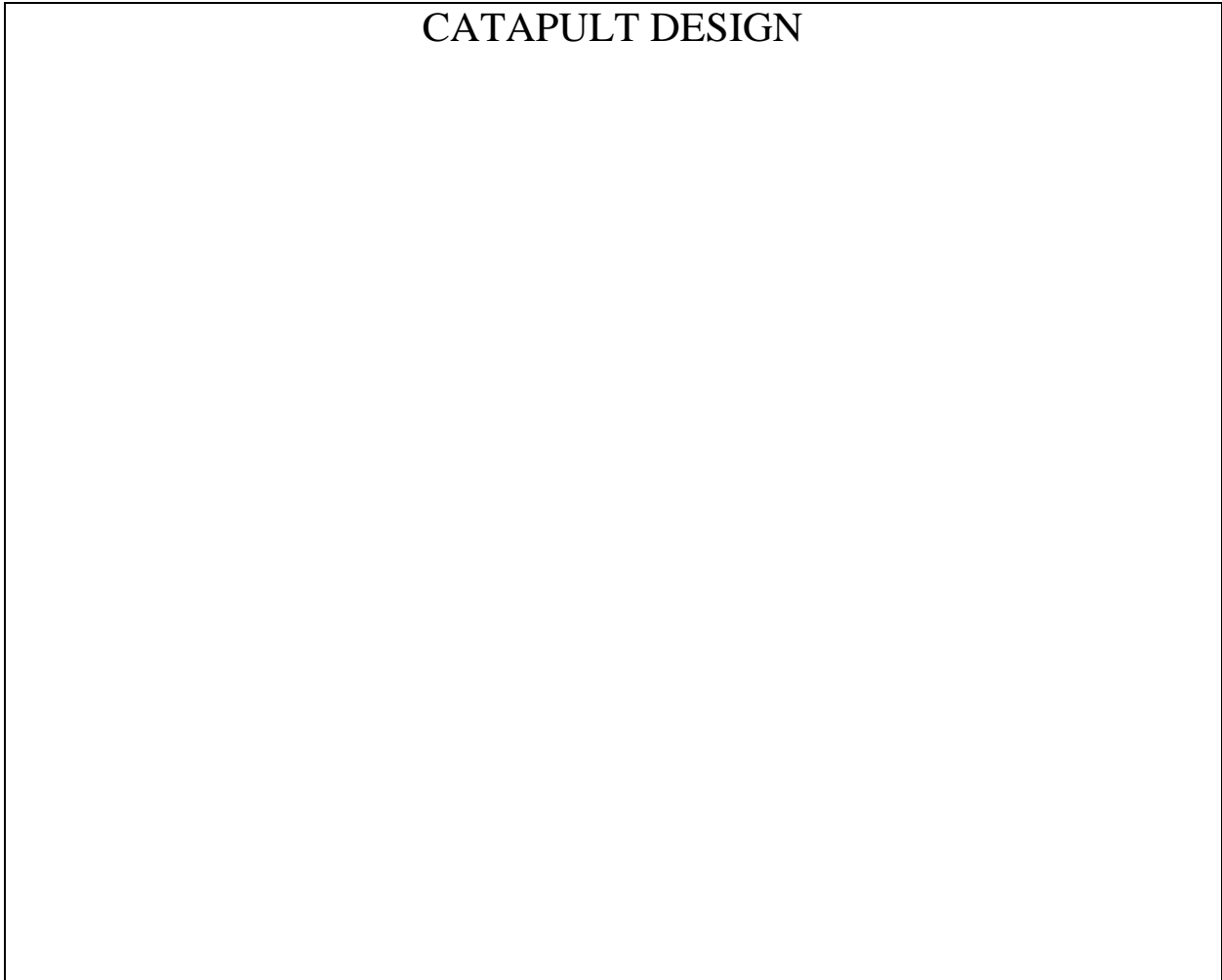
12 popsicle sticks

1 penny

5 straws

**Brainstorm and Design:** Brainstorm several ideas you have for how to use the above materials in your catapult. Use your chrome books for research. Draw your group's catapult design.

CATAPULT DESIGN



**Order Materials:** Once your design is complete and it shows where you will be using each of the materials, you may collect the materials from your teacher. You may not order more than the amounts given above. List how much of each material you will need in the table below.

Item	# needed
Popsicle Sticks	
Penny	
Straws	
Rubber Bands	
Plastic Spoons	

**Build:** Test out your design to see if it will work.

1. What is working well?
2. What needs to be improved?

If you need to order more materials, GO BACK AND REDESIGN your catapult with the new materials needed. Once the teacher can see on your design where the additional materials are needed, the new materials can be collected.

**Analysis:**

3. How many attempts did it take for your penny to hit down any of the cups?
4. What are the results and recommendations you have after creating your penny catapult?

