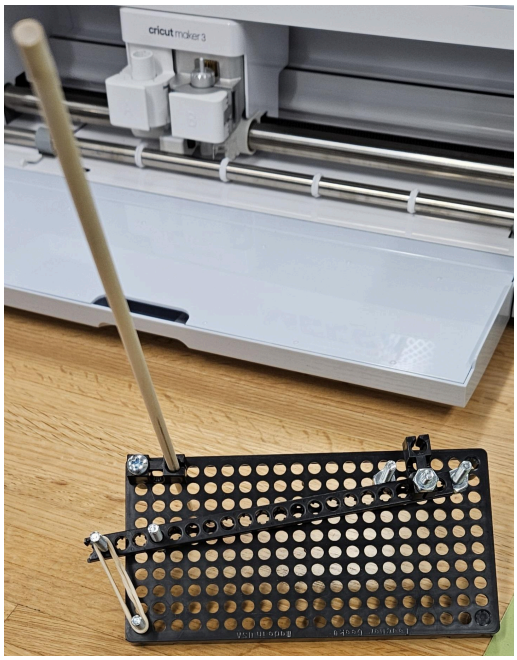
Ryan Jackson
11/23/24
CYSE 368

Reflective Journal 6

On November 21st, we held a Family Makerspace. A Family Makerspace is a creative, collaborative environment that brings families together to engage in hands-on activities involving STEAM subjects. It typically includes tools, materials, and resources that encourage exploration, problem-solving, and innovation. It caters to all age groups, allowing children and adults to work together on projects. They are usually guided and provides instruction.



This is the last Family Makerspace of the year. For this Makerspace, families could come in and participate in STEM activities. For this particular day, the activity we had set up was engineering a catapult. The catapult would be created with rubber bands, a stick, and paperclips. Once you are done constructing, you must launch a ping pong ball. They must then move over to the launching area. This was what we called water pong. Water Pong is a variation of the game of Beer Pong. Obviously, this is a professional setting as well as an event directed towards families. The cups are filled with water to keep the cups from moving. Essentially, you had to catapult the ping pong ball into a cup of water. They must go through a process of trial and error, much like an engineer would. We arranged 6 cups in a pyramid shape on each side of a table. We then filled each cup with water about halfway for easier gameplay so that the cup didn't flip. Players take

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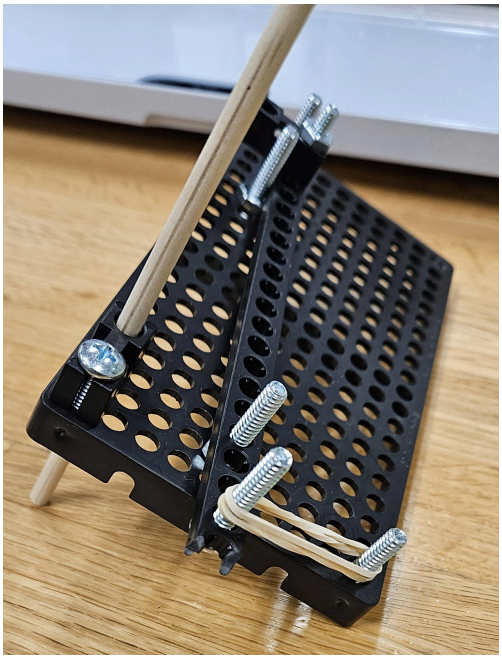
turns throwing a ping pong ball, aiming to land it in one of the opponent's cups. If a ball lands in a cup, the opposing team removes it from the table.



The major focus of this activity is obviously the building process. They must keep in mind all constraints and brainstorm solutions for potential launching mechanism. They must use rubber bands to create the necessary tension to launch the ball. Test the catapult by launching the ping pong ball at a water-filled cup, observing its trajectory, distance, and accuracy. All those involved then take notes on its performance and identify areas for improvement. This would include adjusting the arm's angle, modifying the tension or stabilizing the base for better accuracy. This activity teaches key concepts in physics, such as force, motion, and angles, while also promoting engineering problem-solving, teamwork, and creativity. Water Pong provides a fun and interactive way for families to engage in STEM, encouraging both creativity and engineering skills.