

Part 1 Activity Sheet: Rotating Paddleball

Name:

Instructions

Your goal is to create a “paddle” to attach to your rotating base that can hit a ping pong ball! Follow the steps below to brainstorm, sketch, prototype, and test an idea!

Step 1: Brainstorm

What could your paddle look like? What could it be made out of? How will you attach it to the rotating base? List 5-10 ideas below! The more creative, the better.

Step 2: Sketch

Choose your favorite idea from the brainstorming list and sketch a quick picture of it! Can you combine multiple ideas into one amazing idea?

Step 3: Prototype

Use tape, glue, cardboard, wood, and any other craft supplies you can find to create a rough model, or “prototype” of your design.

Step 4: Test

Set up two make-shift goals using plastic cups. Then, compete head-to-head against another group in a paddleball game. The rules are simple:

1. You are only allowed to touch your control syringe to move, slide, and rotate your base.
2. Place the ping pong ball in the middle of the “field” and say “go”.
3. If the ping-pong ball passes through your opponent’s goal, you earn a point!
4. The first to three points wins.

Step 5: Reflect

Answer the questions below in complete sentences:

1. What is a hydraulic system?
A hydraulic system is...
2. How are hydraulic systems used?
Hydraulic systems are used to...
3. How did you create circular motion using hydraulics?
I created circular motion using hydraulics by...
4. What worked well with your paddle ball design?
Something that worked well with my design was...
5. What would you change about your paddle ball design?
Something I would change about my design is...