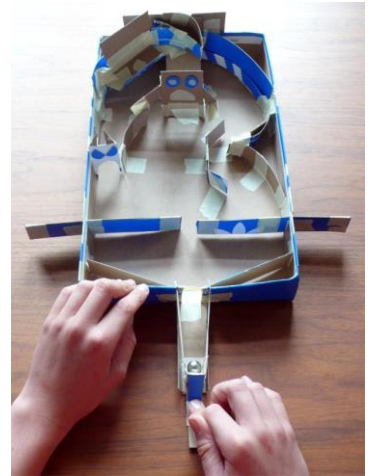
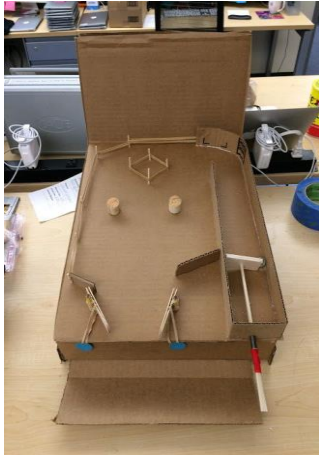
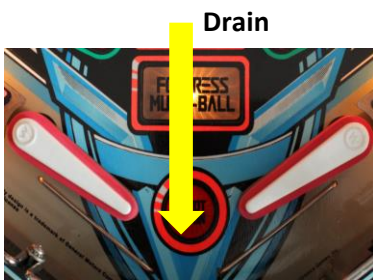


Pinball Machine Challenge



The Mechanics & How to Play Pinball



A Pinball Machine is a classic arcade game. In Pinball the player uses flippers to direct the ball through different parts of the machine. There are different types of obstacles, bumpers and holes used to earn points. Pinball machines typically use three balls (marbles). The ball is launched by using the plunger, which propels the ball forward and into the game. The player wants to avoid the ball reaching the drain, which is the hole between the two flippers.

Tips:

- 1) The most important mechanism in your design is the plunger. The game cannot begin if there is no way to launch your ball into your game. Focus on that part of your machine first. What are the tools you will use to release the ball?
- 2) You will need to create a stand or a way for your game to be tilted forward towards the player.
- 3) Have fun with your design. Make obstacles, loops, ramps, etc. But do not forget to test with a marble, while you are building. All the parts must be functional.
- 4) The flippers need to be able to move independently of each other and not only up and down at the same time.

Pinball Machine STEM Challenge



Your Challenge:

Using what you can find around the house (suggested materials to look for below), you must design a Pinball Machine that contains the following properly functioning parts, flipper, drain, holes, bumpers, and plunger. You must successfully launch the ball using the plunger. You must have 5 obstacles, such as bumpers and holes that award points to the players. The flippers must be able to function in preventing the ball from reaching the drain.

Materials:

Here are some possible materials. However, kids are very inventive and can be creative with what they can find around the house.

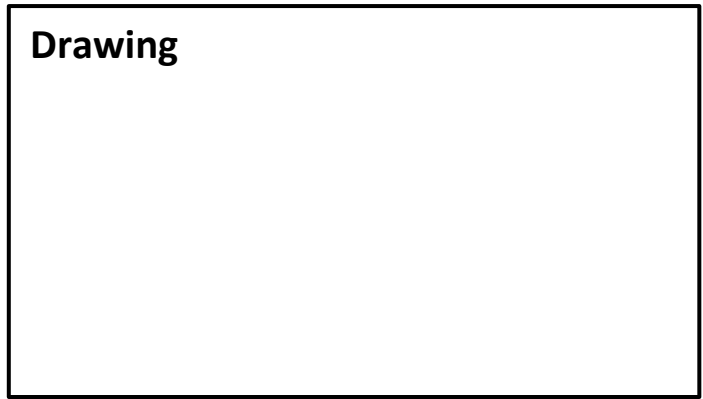
- Cardboard Boxes & Lids
- Glue and scissors
- Duct tape
- Mini cups
- Construction paper
- Plastic bottles
- Rubber bands
- Legos
- Popsicle sticks
- Scraps of wood & nails (if you have any)
- Brads and pushpins
- Clothespins
- Straws
- Paper towel and TP rolls
- Chopstick

Brainstorm your design:

Trial #1

Notes:

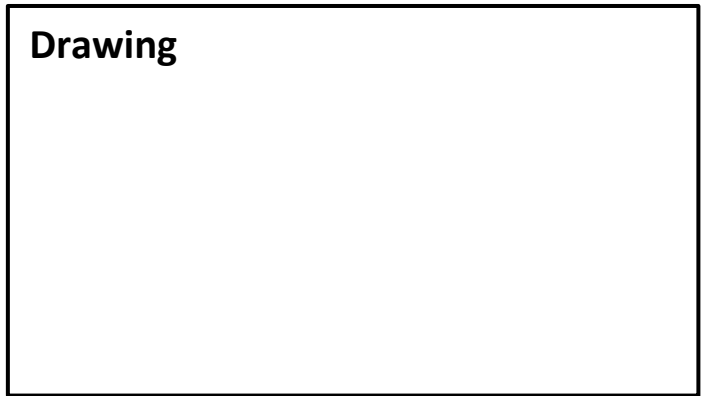
Drawing



Trial #2

Notes:

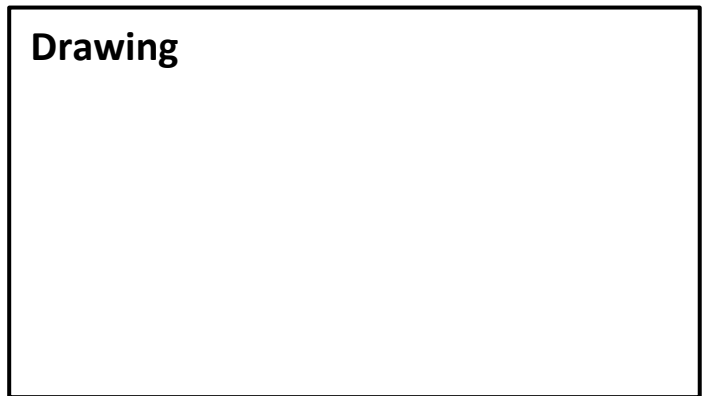
Drawing



Trial #3

Notes:

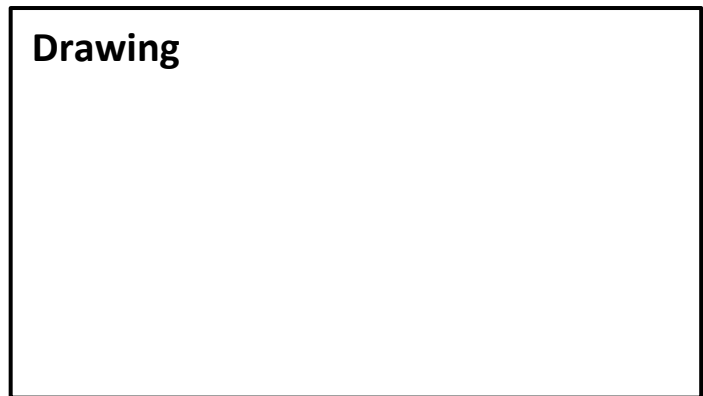
Drawing



End Results

Notes:

Drawing



Were you able to complete the challenge? If not, what would you change? What additional features did you add to your design?