

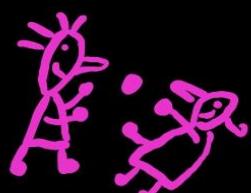
# Toy Design: Play and The Act of Play

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# what is play?

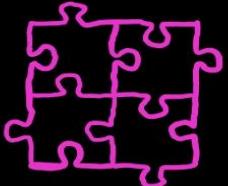
- Play consists of any activities performed for self-amusement
- Has behavioral and psychomotor rewards
- Enjoyable and spontaneous



## Play and The Act of Play

### Object of Play

- playful use of objects
  - Jigsaw puzzles
  - Building Blocks
  - Board games



### Act of Play

- How do you 'play' with something?
- A set of rules to play a game / toy



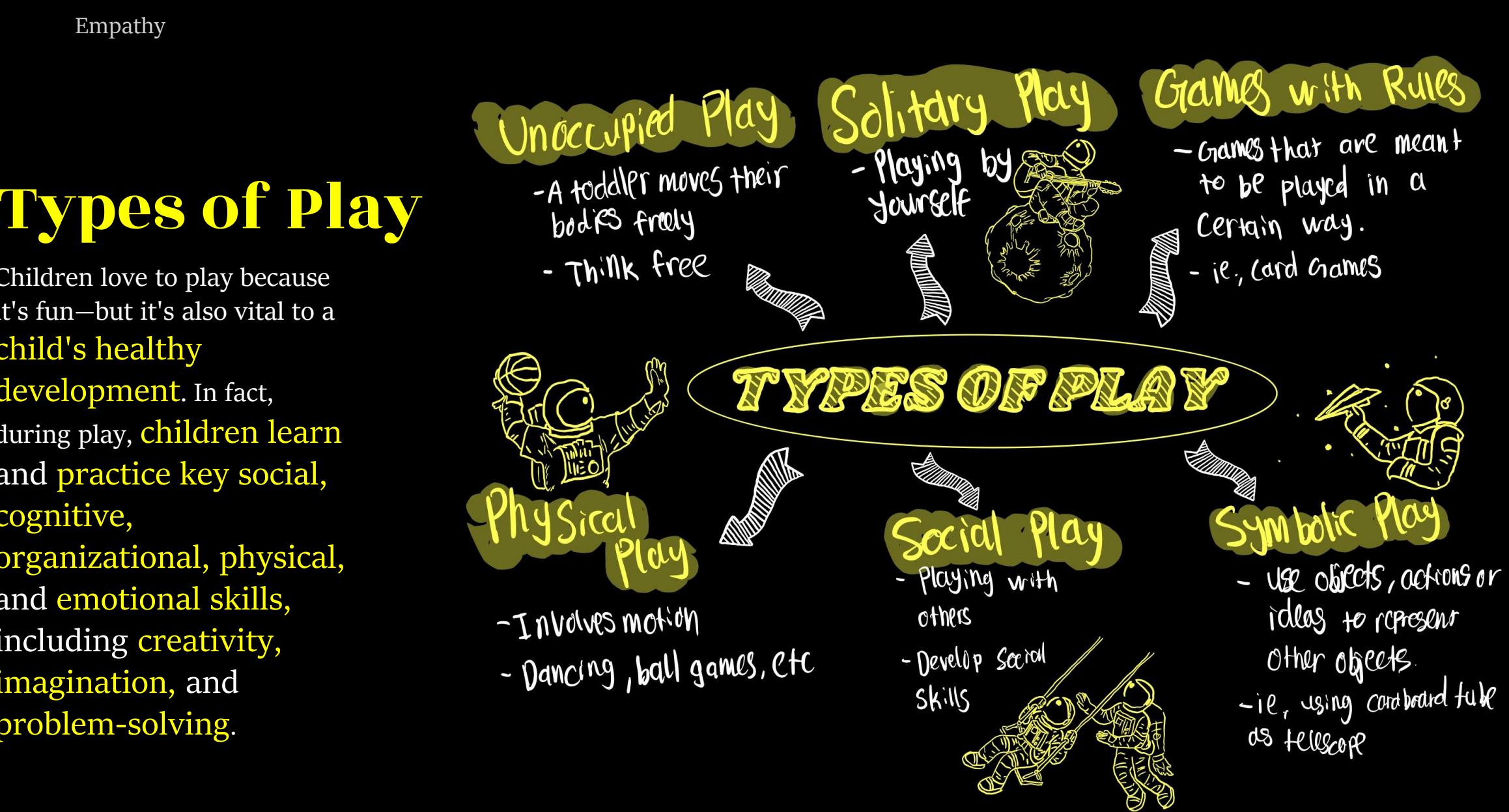
### Importance of Play

- Stimulate Brain Development
- sparks creative thinking
- Social Development
- Physical Development
- literacy Development

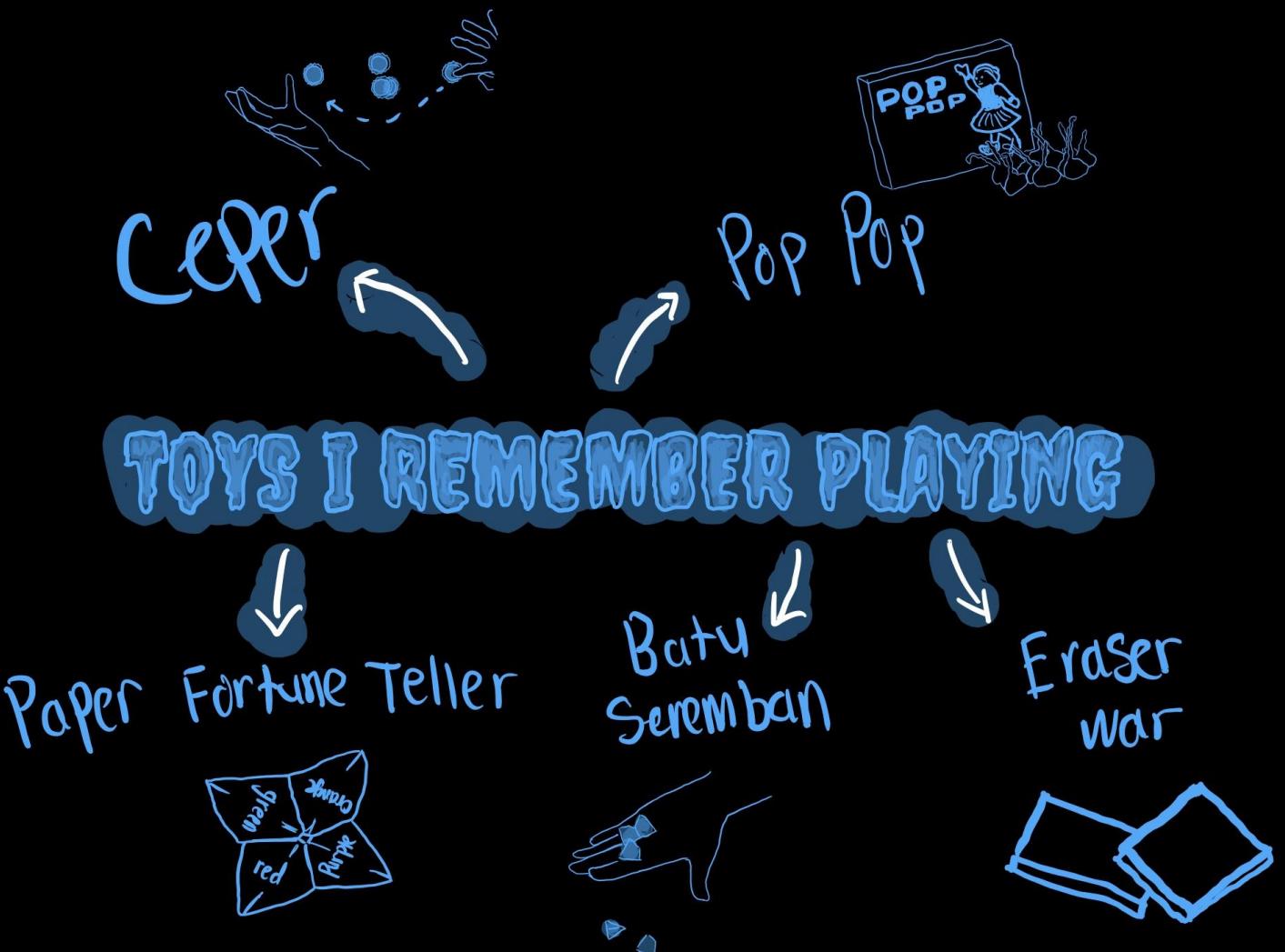


# Types of Play

Children love to play because it's fun—but it's also vital to a child's healthy development. In fact, during play, children learn and practice key social, cognitive, organizational, physical, and emotional skills, including creativity, imagination, and problem-solving.



Empathy



## Toys I Remember Playing

Remember back in our early days?  
We used to fill our time by playing.  
I am glad that my childhood hasn't  
gone through digitization and  
fondly remember playing games  
using things we found  
around us.

# MATERIALS

## Recycled Materials

- Plastic bottles



- String / ropes



- Empty tins / cans



- News paper



## DAILY OBJECTS

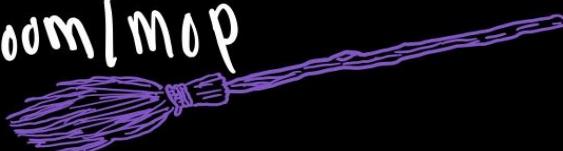
- Old clothes



- Garden hose



- Broom / mop



## FOUND OBJECTS

- marbles



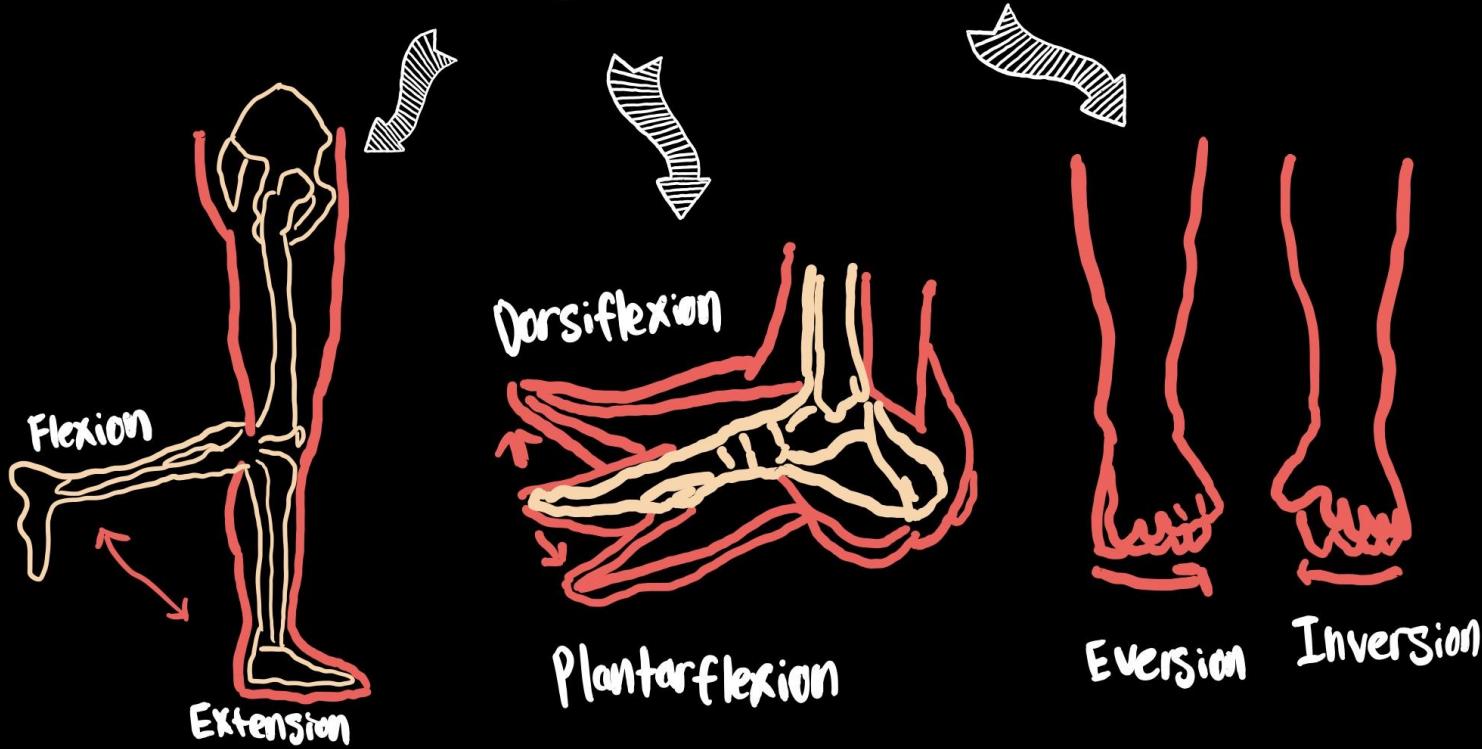
- old instruments



- old toys



# MOVEMENT OF LEGS AND FEET



**Assigned body part:**  
**Legs and Feet**

Legs are used for **standing**, and all forms of **locomotion** including **recreational activities** such as dancing and constitutes a significant portion of a person's mass.

Define

# Stimulating

- Makes us think
- Has challenges

# Different

- Different from the games we are used to in this era.  
ie. video games

# Safe

- No dangerous actions
- Suitable for most ages

# Recycled Materials

- Using materials that we can find in our household

# AIM OF THE TOY

## For legs and feet

A toy to we  
worn

A toy that  
relates to the  
body part

# Fun

- Rewarding
- Playing with friends

# Simple

- Manually operated
- Easy to build
- Easy to play

# what's the purpose?

Upon doing some research online, here are some **criteria's** that needed to be taken into consideration **when** designing a toy.

Define

# Diving into The Materials

It can be observed that the choices of materials are mostly items we can find at home and most of them are not in use anymore.

UNDERSTANDING THE MATERIALS

- Plastic bottles**
  - Can make noise
- Marbles**
  - Has weight
  - can make noises
- Broom**
  - Sticks can be reused
- String / Rope**
  - Can tie things together
- Cans**
  - can make noises
- Empty Tin**
  - Strong
- Rubber bands**
  - Stretchable
  - Can tie together
- Shoes**
  - Protect our feet
- Mop**
  - can absorb water
  - cleans the floor

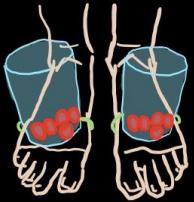
Define

## Activities using Legs and Feet

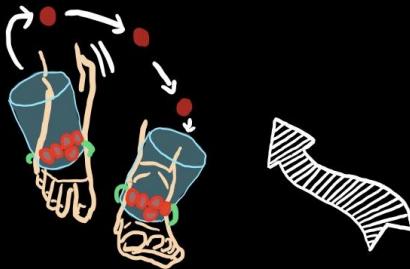
There's so much more we can do with our legs and here are some examples of some activities involving legs and feet.



Define



Marble Rush

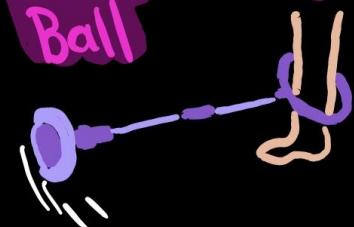


Slippery Slippers

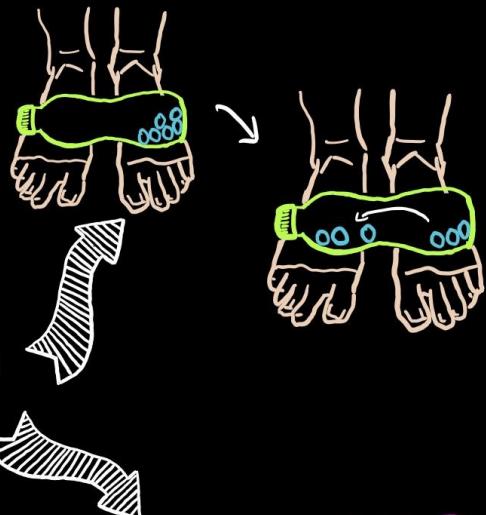


INITIAL IDEAS

Ankle Swing Ball



Marble Balance



Tin Stilts

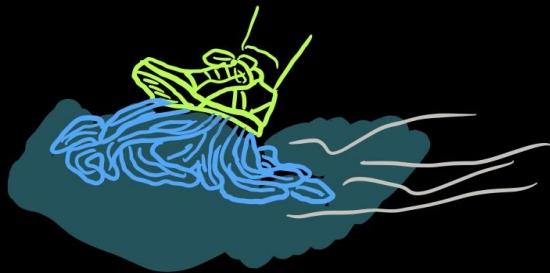


what did I have  
in mind?

Based on the criteria's, here  
are some ideas I had in  
mind.

Define

# Slippery Slippers



## How to Play ?

1. Player wears a shoe with a mop underneath
2. The floor and mop is wet
3. Player can slide around

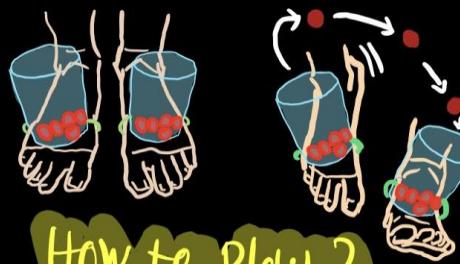
## Advantages

- Adrenaline rush
- Balance better

## Disadvantages

Hard to make  
Very dangerous

# Marble Rush



## How to Play ?

- 1) All marbles are placed in a cup
- 2) The marbles are juggled to the other cup
- 3) Faster is better

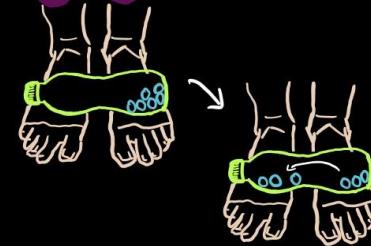
## Advantages

- Requires fast reactions
- Practice feet movement

## Disadvantages

- Boring
- Marbles can scatter and causing a mess

# Marble Balance



## How to Play ?

Player can tilt the bottles using their feet to roll marbles around

## Advantages

- Makes for a good fidget toy
- Doesn't require focus

## Disadvantages

- Boring
- No challenge

# Tin Stilts



## How to Play ?

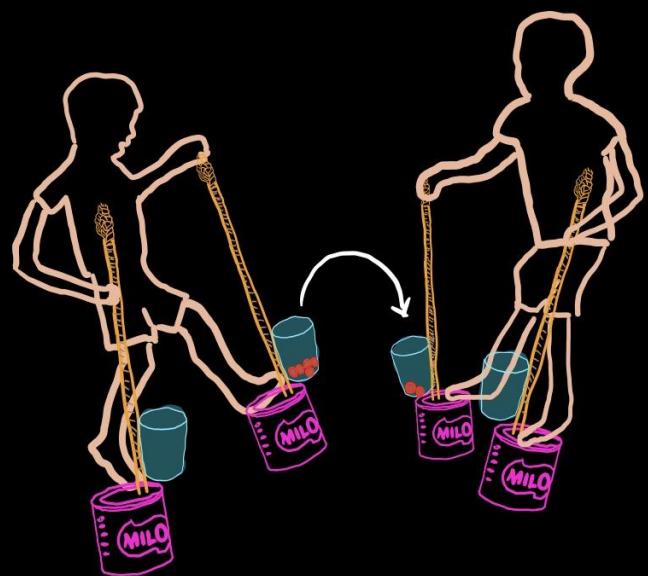
- A person walks on the tin stilts
- The hand needs to pull on the ropes so that the tins can be lifted with the legs

## Advantages

- Improve balancing and coordination

## Disadvantages

- Not much challenge
- can get boring after awhile



## IDEATION 1



# Marble Pass



Tin Stilts

+



Marble Rush

## How to play?

- 1) Requires 2 players
- 2) Each player stands on tin stilts
- 3) Players pass and catch the marbles using the cups attached to the tin stilts

## Advantages

- fun
  - can play with multiple players
- ## Disadvantages
- Easy to lose balance

## Types of Play

Social Play + Physical Play

# IDEATION 2

## Tube Balance

### How to Play?

- Marbles are placed inside the bottles
- The player can move the marbles to the other bottle through the tube.

### Types of Play

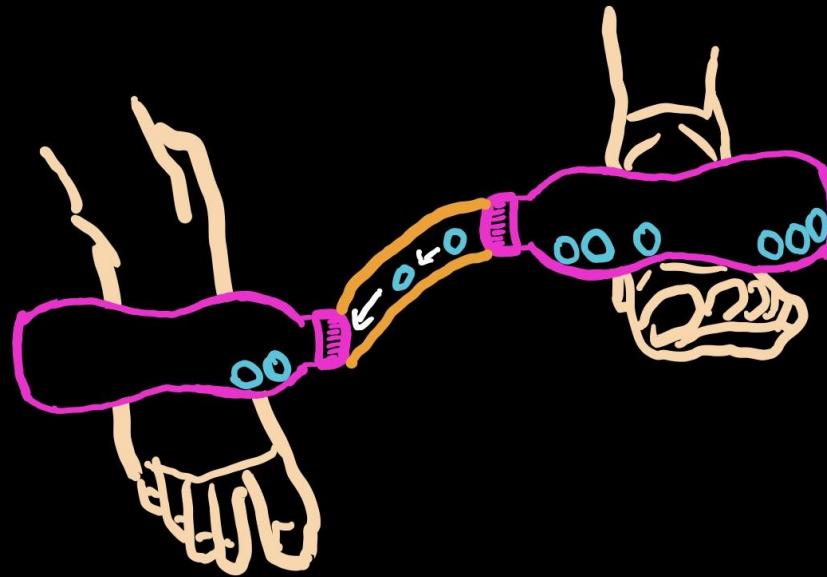
- Solitary Play

### Advantages

- Safe
- Can play anytime

### Disadvantages

- Boring
- Not challenging



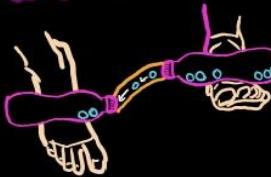
# Marble Monster



Tin Stilts

+

Tube Balance



## How to Play?

- Similar to marble balance
- The Tube balance is combined with the tin stilts
- Players will have to balance their weight as well as the marbles

## Advantages

- Challenging
- Fun
- Safer than Marble pass

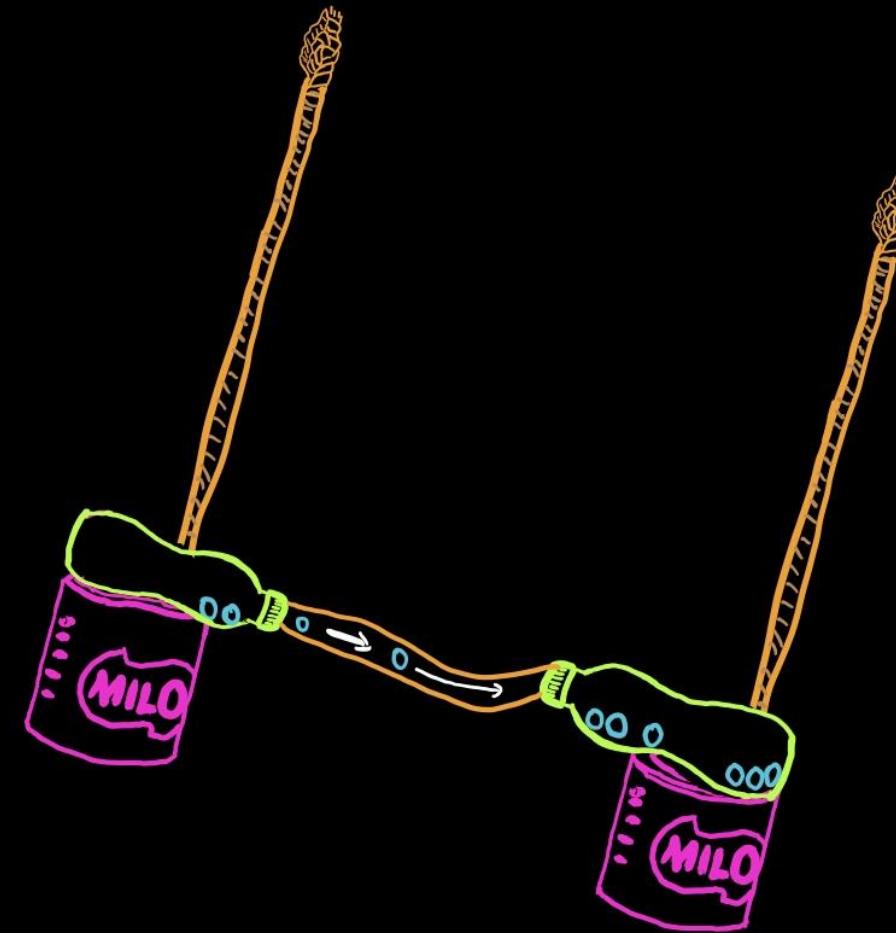
## Disadvantages

- Boring if played alone

## Types of Play

- Solitary Play
- Physical Play

# IDEATION 3



I decided to go with  
**IDEATION 3**

# Prototype



Preparing the Materials



Attaching the Strings



The lid of the tin bent

Attach the strings  
to the bottom  
of the tin

I **prepared** the items that I planned to use. After that, I started off by poking holes to the lid of the tins to tie attach the strings to.

After a few tries, **the lids of the tins bent** so I decided to **attach the strings to the bottom** of the tin instead

Prototype

# Prototype

I then **attached** the hose to the bottle by using **tape**, but it came off easily.

After that I decided to use a **screw to attach the hose** to the mouth of the bottle, but the **hose kept running out of place**.

On top of that, this method looks **untidy**.



I tried to attach the bottles using a hose and tape



I used screws to attach the hose to the bottles



But it kept running out of place

The tape wasn't strong enough

# Prototype

I used a bigger  
and more flexible  
tube

They match the  
opening of the bottle



- Added a bottle opening to the other end
- Can add more marbles



- Can connect to more bottles for more players

I found a hose that is **more flexible** and **fits the opening of the bottle** perfectly.

I also **attached another bottle opening** to the opposite end of each bottles to make this toy **modular** enabling it to connect with more bottles so that it can be played by **multiple players** and allows the user to **add more marbles** into them easily.

Prototype

# Final Prototype



Present

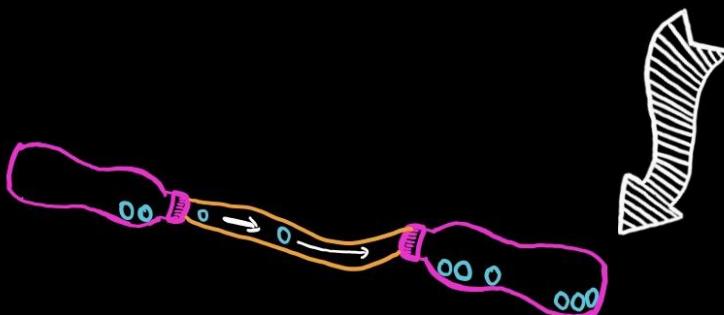
# Marble Monster



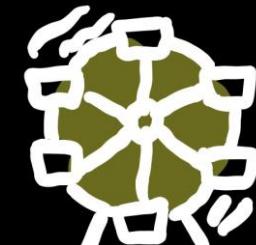
Recycled Materials



Modular



Balance the marbles between the bottles



Fun to Play