Name(s)

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Project Number

J0111

Project Title

Dual-Purpose Boba Straw: Design and Implementation of a Novel Straw for Choke-Free and Pleasant Drinking Experiences

Abstract

Objectives

People want to drink and suck boba separately, but the simple wide straw has tea and boba together. This not only makes the customer unsatisfied, but it also causes issues with choking on the boba when trying to suck tea. This project addresses this problem by creating new models of straws, testing the effectiveness, and comparing them from several aspects.

Methods

The first part of the project was to brainstorm designs for the straws. The materials used were a measuring cup, 10 regular straws, 10 boba straws, tape, glue, a toothpick, a stainless steel nail, and 3 cups of boba tea. Five models of designs with the materials above (excluding the measuring cup and the 3 cups of boba tea) were then built. The five models were tested with the three cups of boba tea and the measuring cup through three phases: testing for the design constraints, testing for tea sucking efficiency, and testing for boba sucking efficiency.

Results

In the end, two out of the five models were successful. Out of the two models, one of them was superior on the perspective of cost, usability, and effectiveness. The model cost three cents less and was effective in all the trials.

Conclusions

The goal of creating a successful straw model that could separate boba and tea was reached. The ideal model is not too expensive compared to regular boba straws, can function well, and is easy to use. The project shows that the problem of choking and inconvenience with boba straws can be solved. The results of this project is important because it helps boba shops keep their customers satisfied.

Summary Statement

My project is about the design and implementation of a novel straw for pleasant and choke-free bubble tea drinking experiences.

Help Received

My parents provided me with supplies and a place to perform the project. I performed the project and made the board on my own. My science teacher invited me to the science fair and reminded me about deadlines.