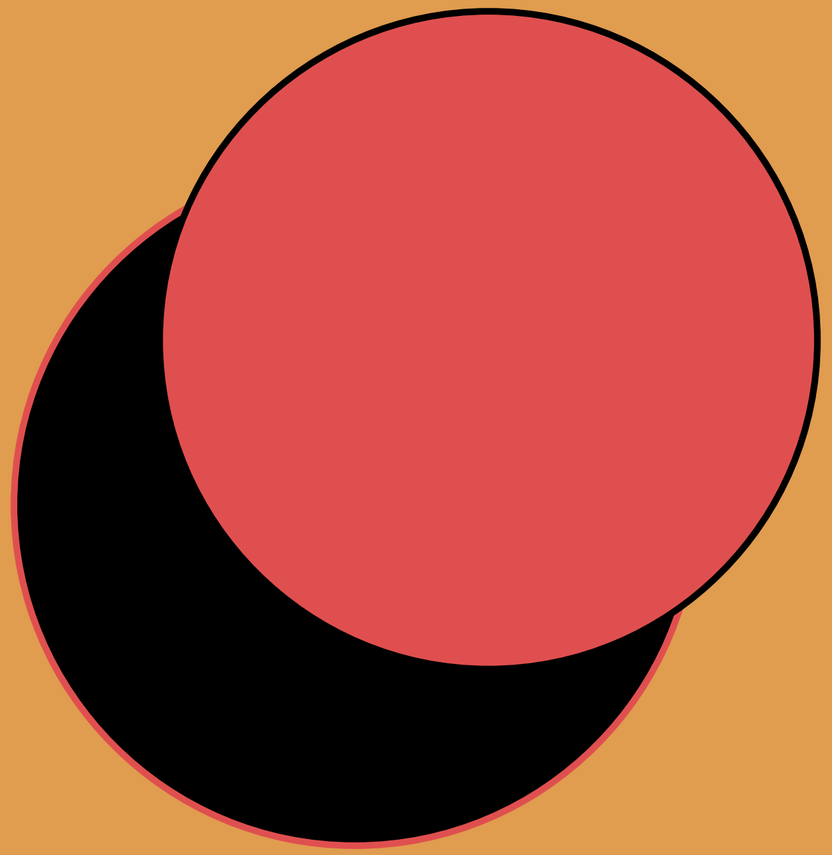
EXPLORING CREATIVE SOLUTIONS

Cardboard Shoes

By: Second Grade Engineers



Purpose of the Cardboard Shoes Project

We aim to test if cardboard shoes are **strong enough** for recess while helping those in need.

Question: Durability

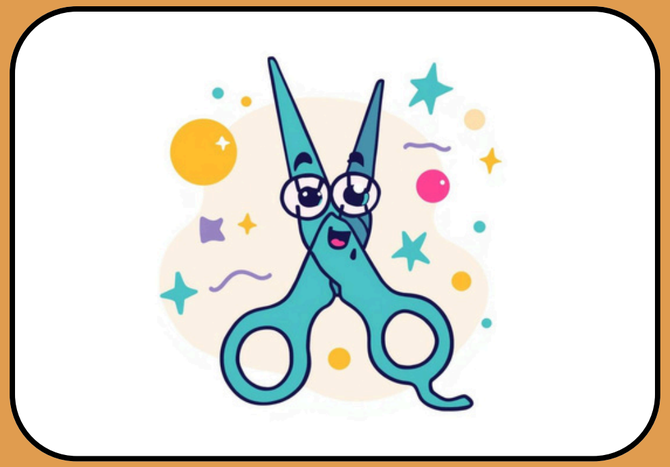
Our research question is: **"Can we use cardboard to make closed-toe shoes that will hold up to the wear and tear of a second grade recess for at least one week?"** This question is important because it helps us understand whether cardboard can be a strong and suitable material for shoes. We want to ensure that the shoes we create can withstand running, jumping, and playing during recess, while also considering comfort and support for the wearers.

Hypothesis: Lasting Shoes

We believe that **cardboard shoes can be durable** and withstand the active play of second graders during recess. Our expectation is that we can create a design that not only lasts for at least one week but also enables us to produce additional pairs for those in need. By focusing on strong construction methods and innovative designs, we hope to make a positive impact with our cardboard shoes project.

Materials for Our Project

Cardboard
Fabric
Shoe Laces



Scissors
Hole Punch
Binder Clips
Push Pins

Glue
Spray Bottle
Dictionary (Weight)

Procedure: Steps to Make Shoes

Trace Soles

Kids trace their shoes onto cardboard.

Cut Soles

Carefully cut out the shoe soles.

Assemble Pieces

Kids glue on the side and front pieces.

Variables in Experiment

In our cardboard shoes project, we focused on key variables. The **independent variable** is the cardboard shoes we created, while the **dependent variable** measures how long these shoes lasted during recess. We made sure to control other factors, such as using the same materials and conducting tests over the same time period. This setup allowed us to accurately assess the performance of our cardboard shoes and learn more about their durability.

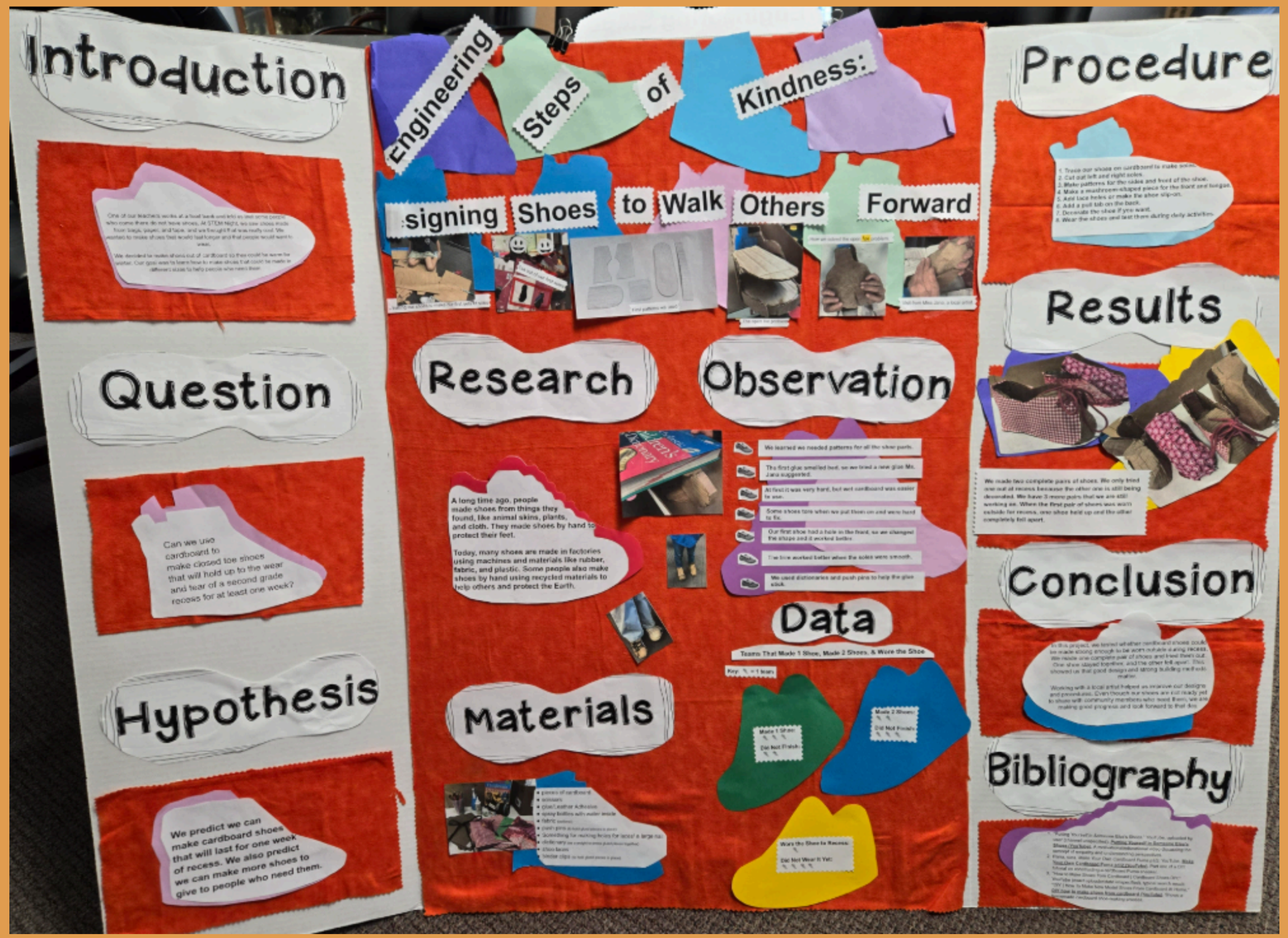
Shoe Testing Outcomes

In our project, **we made two pairs** of cardboard shoes to test their durability. During recess, one pair stayed intact while the other fell apart. This showed that while cardboard can be used to make shoes, the **design and construction** are crucial for longevity. We are still working on more pairs to improve our techniques and ensure that we can create shoes that will last longer and help those in need.

Lessons Learned

Through our project, we discovered that **cardboard shoes can be functional**! While they may not last forever, strong designs and effective building methods are crucial for their durability. We learned to be creative and resourceful, using recycled materials to help those in need. This experience not only taught us about engineering but also encouraged us to think about how we can make a positive impact on our environment and community with our inventions.

Real-World Impact

Engineering enables us to **address real-world problems** and create positive change. Our cardboard shoes project demonstrates how **recycled materials** can be repurposed to support those in need, particularly in providing footwear for people without access to shoes. By experimenting with sustainable resources, we learn the importance of creativity and resourcefulness. This project not only promotes environmental stewardship but also inspires young engineers to think critically about how they can make a difference in the world.

Final Project