

# Balloon-Powered Cars

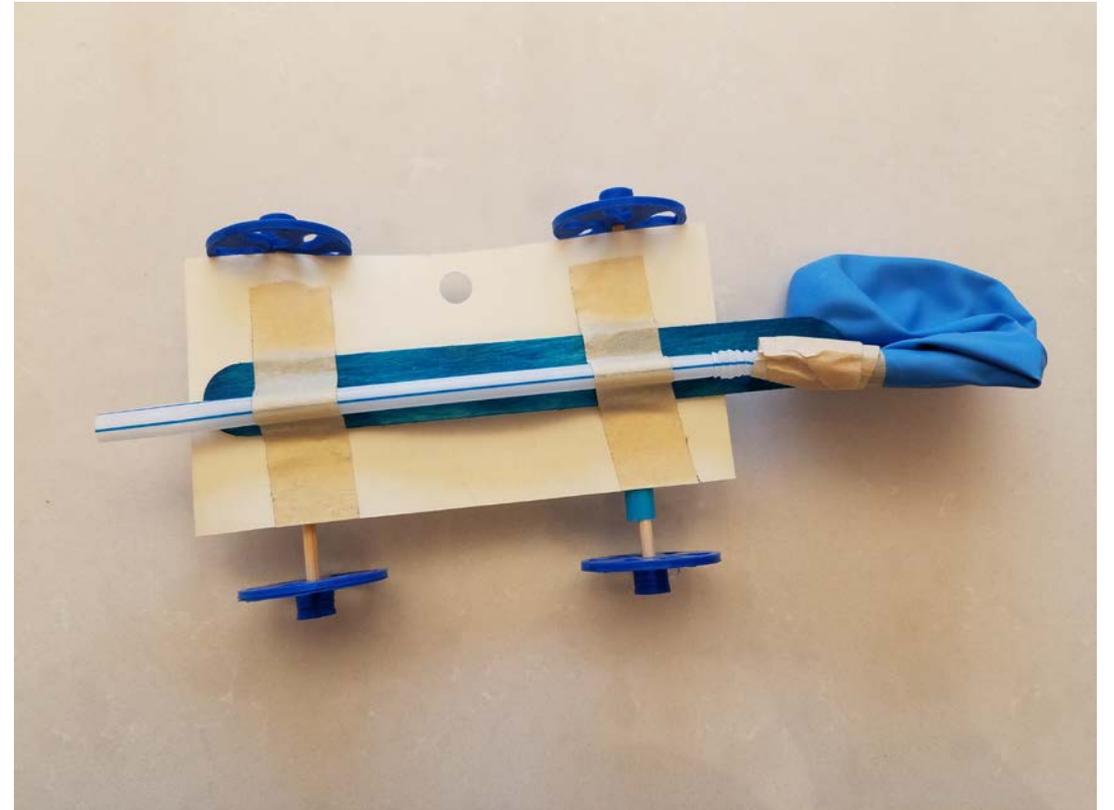
DeMary Memorial Library

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# Program Overview

- Age group(s): older children and teen (6-18 years old)
- Time to set-up: ~5 min
- Time to complete: 20-40 min
- Time to clean-up: ~5 min
- Mess level: Very Low
- Difficulty level: Medium
- Approximate cost: \$1.40 per car



# Supplies needed

- Plastic project wheels (can also be 3D printed)
- Wooden dowels
- Bendy straws
- Balloons
- Index cards (or similarly sized cardstock)
- Craft sticks
- Masking Tape and Scissors



# Reflection

- **Success**

One of the biggest, and unexpected, successes for us was helping to build a sense of sportsmanship in the participants. The children were all rooting for and encouraging each other during the races, even those whose cars were performing better.

- **Lesson Learned**

We learned several lessons from this program, but one of the most important is to do a run through of your projects before programs to familiarize yourself with the supplies and process. If you don't, you might find out in the middle of your program that you don't have all the necessary supplies or you've missed a critical step.

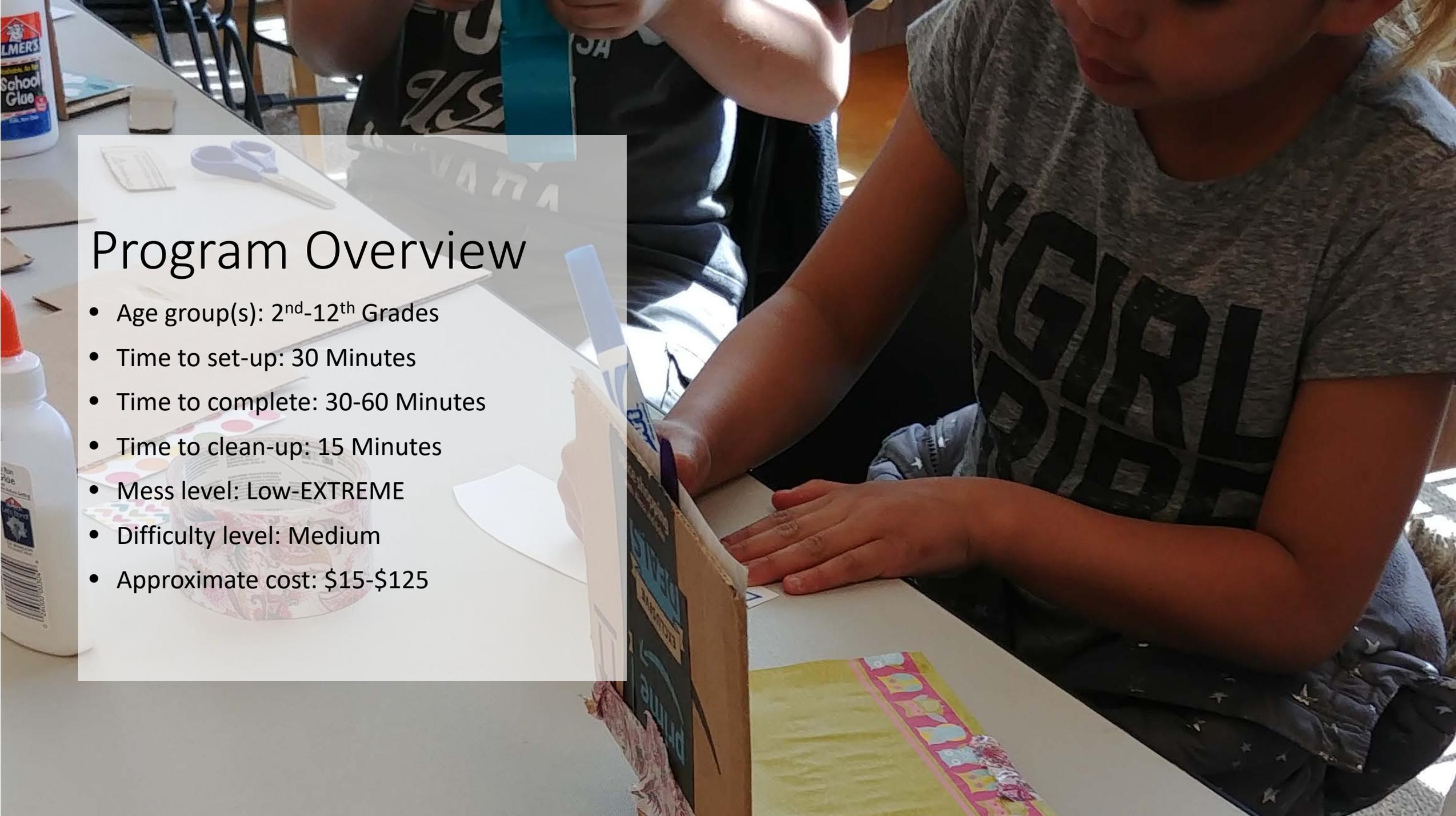


# Build-A-Chair

Payette Public Library

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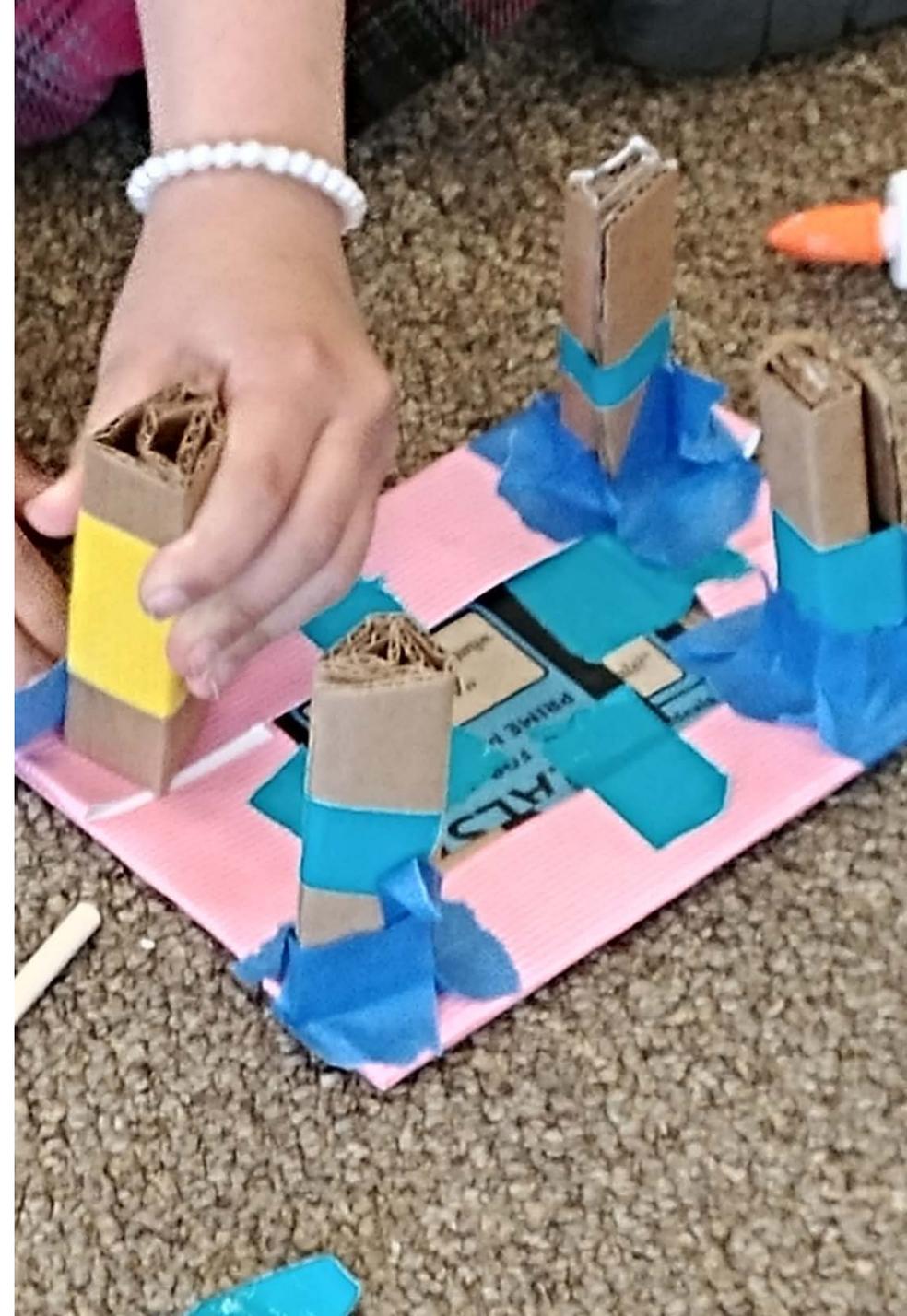
A photograph of two children sitting at a table, working on a craft project. The child on the right is wearing a grey t-shirt with the words 'VIGOR GIRL' printed on it. They are using scissors and glue to assemble a cardboard box. On the table, there are bottles of Elmer's School Glue, a pair of scissors, and various pieces of paper and cardboard. A semi-transparent white box containing text is overlaid on the left side of the image.

# Program Overview

- Age group(s): 2<sup>nd</sup>-12<sup>th</sup> Grades
- Time to set-up: 30 Minutes
- Time to complete: 30-60 Minutes
- Time to clean-up: 15 Minutes
- Mess level: Low-EXTREME
- Difficulty level: Medium
- Approximate cost: \$15-\$125

# Supplies needed

- Cardboard
- Probably more Cardboard
- Decorations
- Tape (Duct Tape if fastening)
- Cardboard Cutters
- Makedos (OPTIONAL for younger groups)
- Participants



# Reflection

- **Success**

This project allows an outside of the box design focus. Kids love being able to do things their own way and it allows a lot of teamwork with a focus on impact and roles.

- **Lesson Learned**

Material constraints influencing design. Building a chair out of cardboard in a traditional sense is VERY difficult without a lot of time and materials. Allowing students to explore alternate design avenues and then pointing out different materials focuses the project on real world engineering hurdles.

# DIY Corner Bookmarks

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Lakeland Jr. High School

Ginelle Dexter

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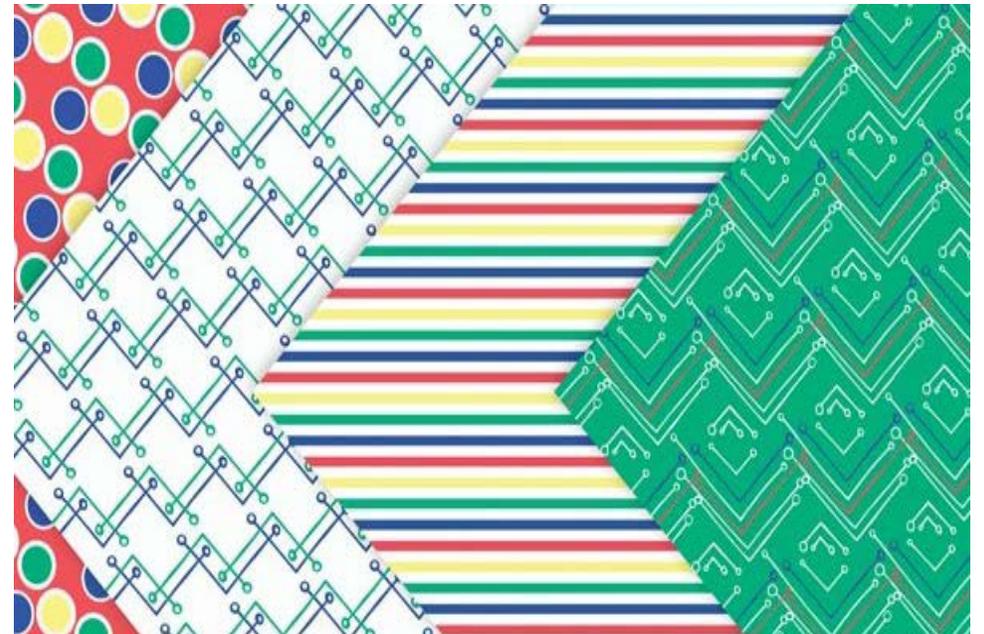
# Program Overview

- Age Group: K - 12
- Prep time: 15 mins
- Activity time: 15-30 mins
- Clean up: 15 mins
- Mess: Minimal
- Level: Easy
- Cost: \$1 or less per bookmark



# Supplies needed

- Construction/Craft Paper
- Glue/Glue sticks
- Crayons/Markers/Pencils
- Stickers
- Scissors
- Template or Rulers



# Reflection

- **Success**

Kids love this unique take on a bookmark. Quick and easy to make, the kids like how they can personalize the bookmark to their own tastes. Creativity on these is limited only by their imagination.



- **Lesson Learned**

Kids have a tendency to want to turn the corner of the page down. This bookmark works well as a quick lesson for younger kids in proper book treatment. (No folding page corners of classroom and library books.)





# TEENS TO TOTS

**Centennial High School**

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# PROGRAM OVERVIEW

- Age group(s): Young adults
- Time to set-up: About 15 minutes
- Time to complete: About five minutes each
- Time to clean-up: Fewer than 15 minutes
- Mess level: 2/5
- Difficulty level: 2/5
- Approximate cost: Less than \$50



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**Construction Paper**

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**Scissors**

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**Paperclips**

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**Keva Brain Builders**

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**(Blocks & Challenge Cards)**

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# SUGGESTIONS FOR SUCCESS

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Build on knowledge incrementally

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Allow time for thinking

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Ask each other open-ended questions



# REFLECTION

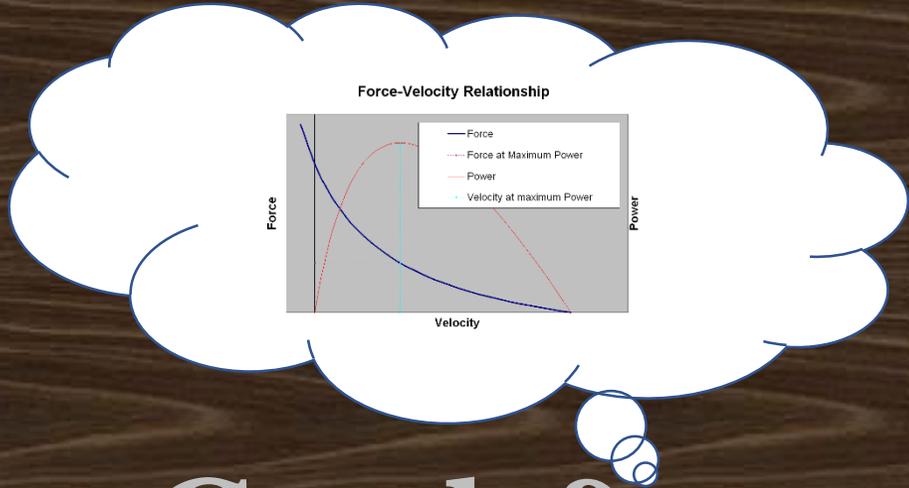
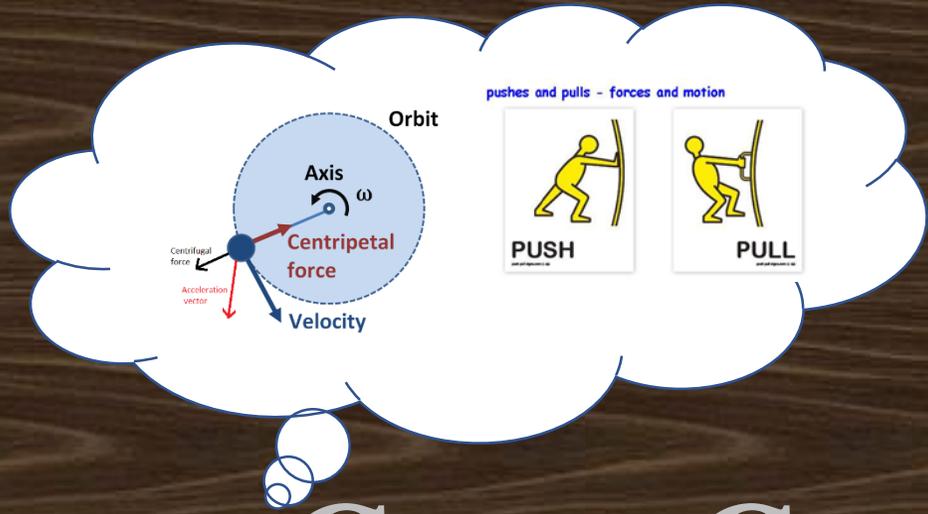
## Success

- Students regularly go on outreach events with no adult supervision.
- Outreach events help provide safe avenues for growth of social skills through diversifying the people with whom the students interact.
- Behavior that is modeled is also learned; the students strengthen their own abilities in approaching new situations through a lens of curiosity.

## Lessons Learned

- Our students tend to rely on a “Wow” factor with technology that limits the creative curiosity that participants engage in. Sometimes, moving away from technology will illicit more critical thinking questions and increase users’ inquiry-based learning.





# Can a Catapult Pult a Candy?

Burley Public Library

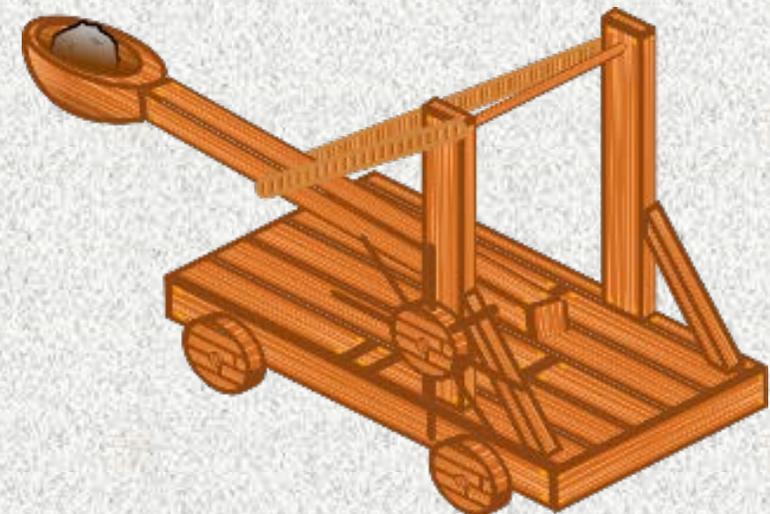
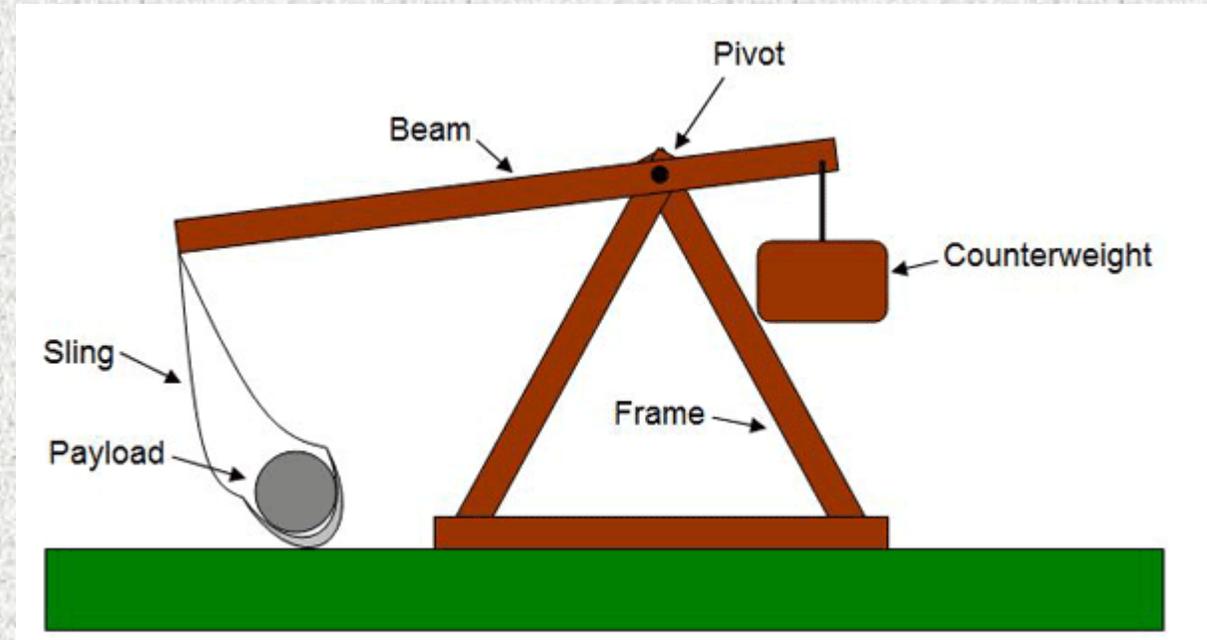
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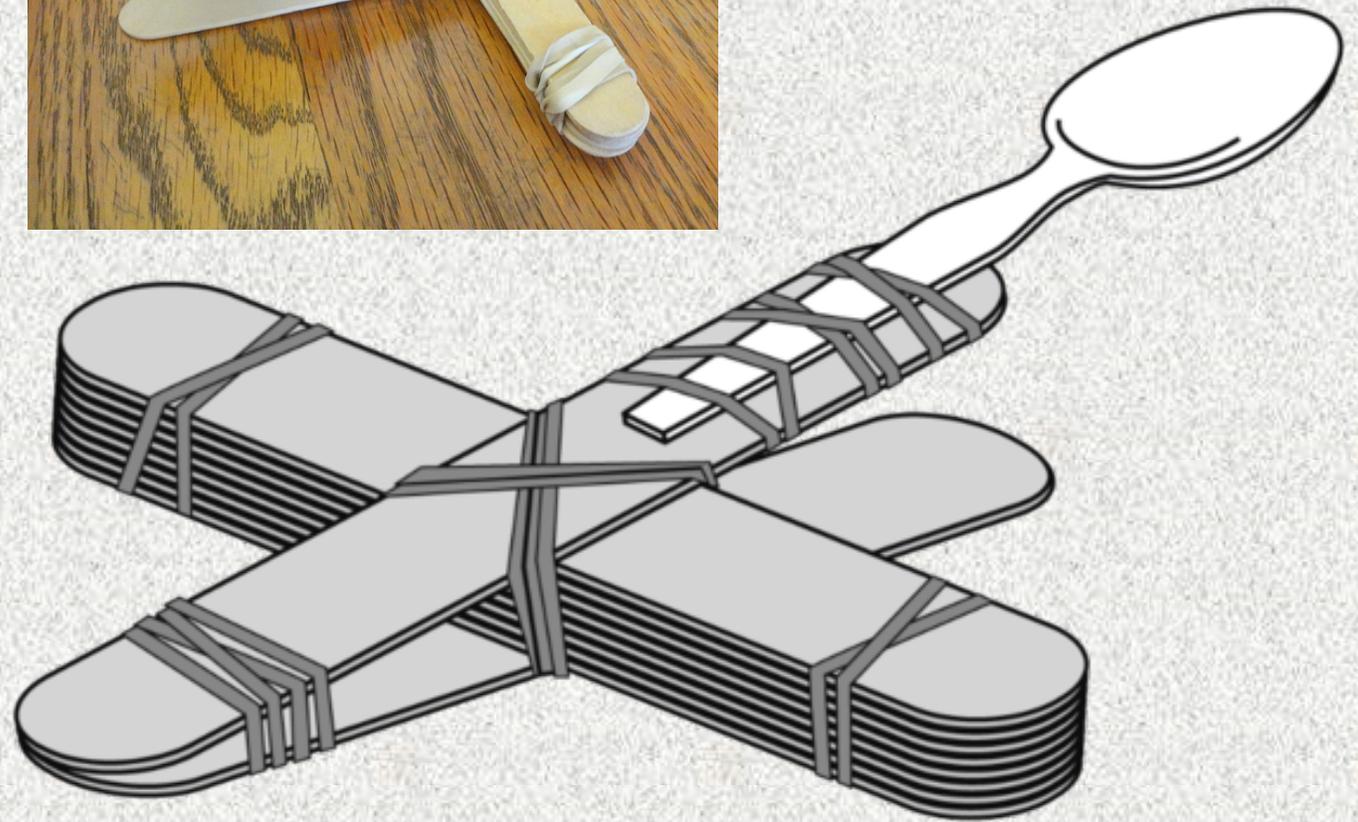
# Program Overview

- Age group(s): **3<sup>rd</sup> – 7<sup>th</sup> grade**
- Time to set-up: **5 minutes**
- Time to complete: **30 minutes to an hour**
- Time to clean-up: **5-10 minutes**
- Mess level: **On a scale of 1 to 10, one being not messy and 10 being very messy. The mess level would be a 2.**
- Difficulty level: **On a scale of 1 to 10, one being difficult and 10 being very difficult. The difficult level would be between 5-6.**
- Approximate cost: **For 25-40 participants the cost is \$33.00**



# Supplies needed

- Candy
- Small Popsicle Sticks
- Jumbo Popsicle Sticks
- Plastic Spoons
- Sorted Rubber Bands



# Reflection

- Success

- Using questions to drive home concepts discussed
  - ❖ “Your goal is to see who can launch the farthest candy. How far did it go?”
  - ❖ “If it went the distance you expected, what do you think contributed to the success?”
  - ❖ “If it didn’t go as far as you expected, what would you change in your design to make it successful?”
- Seeing built catapults being tried various ways to meet goal
- Teams or individuals working to improve designs

- Lesson Learned

- Use of Key Words/Vocabulary
  - ❖ Force
  - ❖ Motion
  - ❖ Tension
  - ❖ Projectile
- Reinforce with Visual Guide/Handout
- Use of Key words with corresponding parts of hands on project

