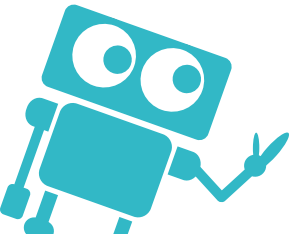
T
Tinker

1
Points

Makedo

Cardboard Structure

Build a cardboard structure that is as tall as possible but isn't wider than 6 inches at the base. Add a working door, window, or elevator for an extra challenge.



MackinMaker

T
Tinker

1
Points

Materials:

- Cardboard
- Makedo connectors and tool

Quick Start:

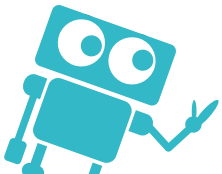
1. Collect scrap cardboard and a set of Makedo connectors and tools.
2. Draw out a quick idea of your cardboard structure
3. Build your structure and add in features as you go.
4. How tall can you make it?

Hints and Tips:

- The punch tool helps to make holes in cardboard so that the screw fasteners can really attach.

Extended Challenges

Social Studies: What famous structures can you model out of cardboard? Try the Eiffel Tower, or a newer skyscraper like the Dubai Burj Khalifa tower.
Science: How do skyscrapers stand so tall? How do elevators work? What happens if you drop a penny off a tower? Discuss how tall structures have evolved over the years



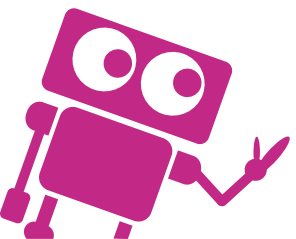
S
Skill-Up

6
Points

Makedo

Bridge the Gap

Build a cardboard bridge that can hold the most weight, is the longest, or mimics a real bridge that you've seen.



MackinMaker

S
Skill-Up

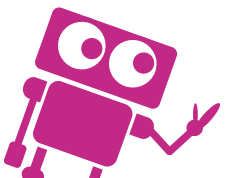
6
Points

Materials:

- Cardboard
- Makedo connectors and tools
- Canary Box Cutter
- Markers
- Paper
- Tape for decoration

Quick Start:

1. Collect scrap cardboard and a set of Makedo connectors and tools.
2. Draw out a quick idea of your cardboard bridge
3. Construct your bridge.
4. Test and evaluate your bridge. Can you make it hold a book…or maybe even two?



Hints and Tips:

- Regular scissors can be challenging when cutting cardboard. Instead try to use tools designed to cut cardboard such as the Canary scissors and Makedo cardboard saws.
- Take your skills to the next level with the Makedo online tutorials found on their site.

Extended Challenges

Science: Explore how bridges hold more weight. Dig into the following terms: compression, tension, torsion, shear, load, and truss. Take your study even further by examining these different types of bridges: cable-stayed bridge, suspension bridge, harp-stayed bridge, beam bridge, and a truss bridge.

Social Studies: Can you build a replica of a famous bridge? The Golden Gate Bridge? Brooklyn Bridge? London Bridge?

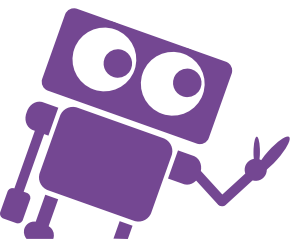
D
Design

11
Points

Makedo
Costume Creator

Design a costume entirely out of cardboard. Can you make a superhero mask and suit? Or maybe a dress for a medieval queen?

MackinMaker



D
Skill-Up

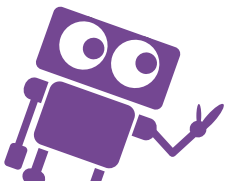
11
Points

Materials:

- Cardboard
- Canary Box Cutters
- Makedo connectors and tools Markers
- Paper
- Tape for decoration

Quick Start:

1. Collect scrap cardboard and a set of Makedo connectors and tools.
2. Draw out a quick sketch of your costume or just start building.
3. As you build think about how you will balance how it looks and how it work (form vs. function).
4. When you are finished, have a fashion show for your class.



Hints and Tips:

- Did you know that Makedo has a set of free 3D-print files online? Hinges, screw bits, straps, and more. Use the link below to find out more. **https://www.thingiverse.com/Makedo/designs**

Extended Challenges

Social Studies: Pick a time period and create a themed period costume item.
Art: Integrate a famous artist's style into your cardboard costume. Try Cubism like Picasso; paper cutting like Henri Matisse; or kinetic-inspired designs like Bridget Riley.

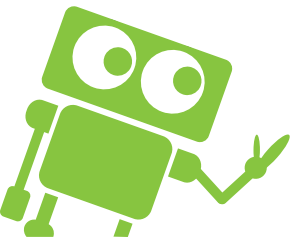
G
Global

17
Points

Makedo

Simple Shoe Design

Design a prototype of a simple shoe that could be inexpensively made for students around the world who don't have proper footwear.



MackinMaker

G
Global

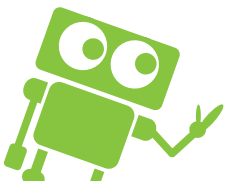
17
Points

Materials:

- Cardboard
- Makedo connectors and tools
- Canary Box Cutters
- Markers
- Paper
- Tape for decoration

Quick Start:

1. Collect scrap cardboard and a set of Makedo connectors and tools.
2. Use design thinking to brainstorm how you will create an amazing new pair of shoes.
3. Gather materials and start to create.
4. Test and iterate your design.
5. Show off your final prototype to your class or friends.



Hints and Tips:

- Want to take your cardboard creativity further with new techniques? Take a look at: **http://tiny.cc/cardboardtechnique** for some great inspiration.

Extended Challenges

Geography: Explore the needs of people in other countries. Make a map or graph of high-need areas of the world where people don't have access to shoes. How would the shoe design change according to the climate and needs of each community?

Science: Add in a materials exploration to this build. Research what materials you could really use to make inexpensive but durable shoes. Is there a way to re-use items that are thrown away like tires, burlap, or fabric to make the shoes?

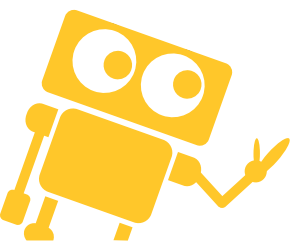
I
Innovator

22
Points

Makedo

Prototyping for Accessibility

Prototype a solution to update a space (room, building, or outdoor area) to better fit a need. Can you design a way to make a school space better for social distancing? Can you make a way for a playground more accessible for people with special needs? What other needs do you see that you could design a solution for?



MackinMaker

I
Innovator

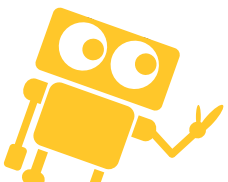
22
Points

Materials:

- Cardboard
- Makedo connectors and tools
- Canary Box Cutters
- Markers
- Paper
- Tape for decoration

Quick Start:

1. Collect cardboard pieces and a set of Makedo connectors and tools.
2. What space are you modifying? What need are you fulfilling? Draw out a quick sketch of your prototype.
3. What shapes will you need to make? Start with more basic pieces and add on to make a more intricate, detailed design.
4. Keep building, testing, and iterating until you finish your prototype.
5. Show it off to others.



Hints and Tips:

- If you're not sure where to begin, think about what the space you are thinking of right now looks like. Start there, then think of how you can change or update it.
- Innovation takes a lot of trying. So, if your prototype doesn't work out the first time, don't be sad. Just keep trying, testing, trying and testing some more–engineers call this "iterating."

Extended Challenges

Social Studies: This could be connected to events related to COVID-19, accessibility needs for all people, and inclusive spaces which has many connections to historical movements and time periods.

English/Language Arts: Create a story or written explanation of your solution. This could also be done as a narrated video.