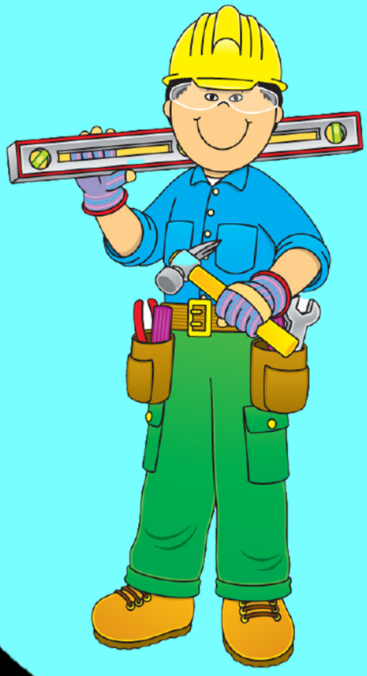
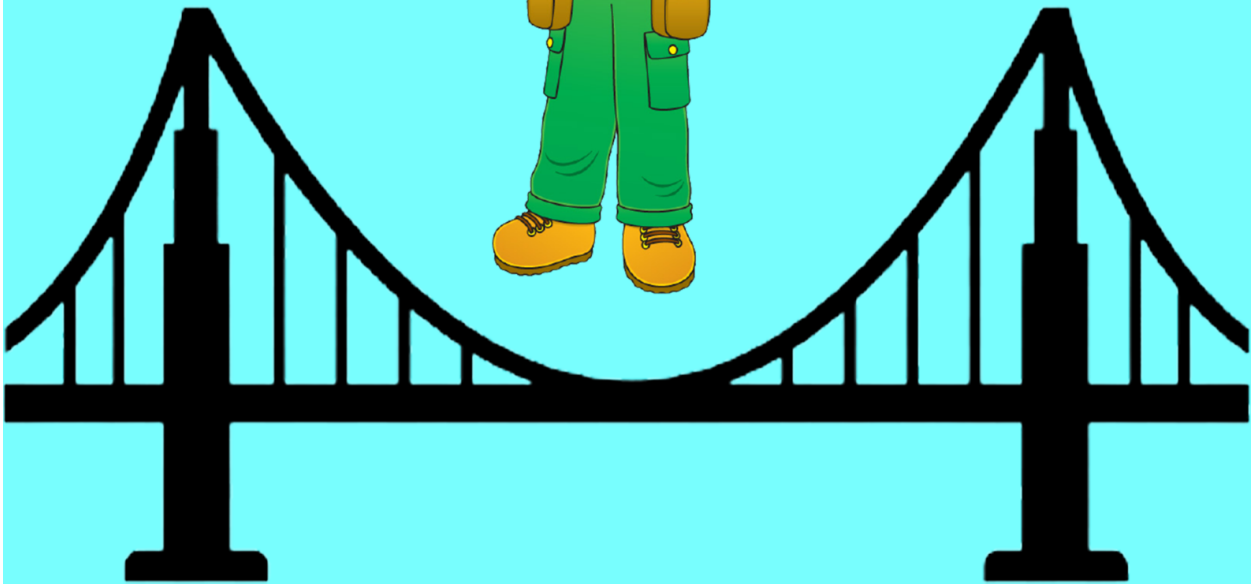
funbotics

A platform to empower youth in STEM.

Build a Bridge Challenge





Funbotics Build a Bridge Challenge

CHALLENGE OBJECTIVE

Your objective is to build a bridge between two ledges (such as two chairs) that will hold the most weight and span the largest distance. You will be judged in 4 different categories outlined in the rubric below. Good luck!

RULES

- You may only use the follow materials to construct your bridge:
    - Straws, paper, popsicle sticks, toothpicks, tape, glue
- There is no limit on the dimensions of the bridge
- To demonstrate the strength of your bridge, you can place any number of objects that include, but are not limited to, books, dumbbells, reams of paper, and bottles of water
- The weights placed on the bridge may only be supported by the bridge that you built
- You must submit all necessary documentation by August 20, 2021 at 5 PM EST via the submission guidelines outlined below

DELIVERABLES

Photos: Submit at least one photo showing the bridge supporting the weights placed on top. Submit at least one photo showing the length that the bridge spans.

Document (Optional): Submit a document detailing the design process. The design process may detail brainstorming, selecting the idea, construction, testing, and any conclusions.

SUBMISSION

Click the following link to submit your completed challenge! All submissions are due by August 20, 2021 at 5:00 PM EST.

https://forms.gle/qsSWMYQ8Nx1qkGky7

RUBRIC

Structure 8 Points	2 Points	4 Points	6 Points	8 Points
	The construction of the bridge is poor and supports minimal weight	The construction of the bridge is adequate and supports some weight	The construction of the bridge is good and supports moderate weight	The construction of the bridge is exceptional and supports a lot of weight
Distance 4 Points	1 Point	2 Points	3 Points	4 Points
	Bridge spans less than 3 inches in length	Bridge spans between 3 and 9 inches in length	Bridge spans between 9 and 15 inches in length	Bridge spans more than 15 inches in length
Design 4 Points	1 Point	2 Points	3 Points	4 Points
	The bridge demonstrates poor design	The bridge demonstrates average design	The bridge demonstrates good design	The bridge demonstrates extraordinary design
Creativity 4 Points	1 Point	2 Points	3 Points	4 Points
	Design exhibits little creativity.	Design exhibits adequate creativity.	Design exhibits good creativity.	Design exhibits outstanding creativity.

Total /20

TIPS

- Think about and draw inspiration from different types of bridges used in the real world
- Think about what types of materials would be strongest and most suitable for this challenge
- Test different designs with different materials