Kids Can Build
Homeschool/Remote Edition

We have teachers and professionals that are here to help guide your child in this project and can address any questions you or your child may have.

- **Schedule of Competition**

  Officially launch it at the beginning of the school year.

  Build day will be December 14 and will take place within their school building. Judging will take place via Zoom with the virtual presentation aspect a part of the scoring.

- **Rules and Regulations**

  -Middle School ages.

  -Children can do this project individually or team up with other homeschoolers for a max of 5 students per team. They can choose how they wish to structure their team. While we understand that this endeavor needs a lot of adult oversight, the students should be at the forefront of this project using their creativity and skills.

  -The size of the structure should be no bigger than 3'x3'x3'

  -There is no requirement for the amount of cans used, although 200-400 food items can be used as a general guideline.

  -Supporting material can be used for templates such as cardboard (Emily and Julie can tell us some other options)

  -Teams will need to submit a sketch by a specific date with their proposed structure for approval

  -Teams are responsible for storing their collected food items-While kosher food is preferable any food is allowed.

  -A wish list will be provided with food items that are requested by the food pantry. The teams do not need to follow the wish list but are awarded points for the amount of items used.

  -In addition to the structure a storyboard will be created along with a multimedia presentation.

- **Awards Proposed**

  - Most items from the Wish list

  -Most Creative Interpretation of the Theme

  -Most Cans

  -People's Choice

  -Team Spirit

  -Judge's Favorite

- **Funding**

There are several different ways that the students can collect the food items that won't really entail fundraising including, contact us for more ideas:

-Give out a list of items to friends and family to purchase or donate for the structure

-Partnering grocery stores could have a food drive to encourage people to purchase the items that are needed.

-Sponsoring Businesses

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- **STEAM**
  This project incorporates all of these valuable educational methods.

Science, engineering, art and math are evident

Technology - The teams can use a free tool called Sketchup to help design their model.

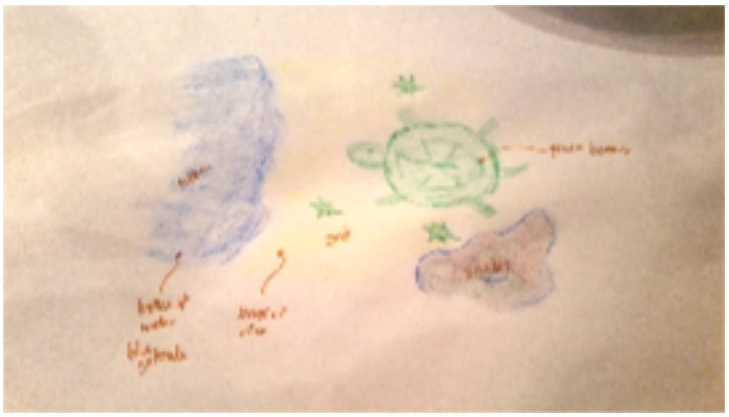
In addition the teams will have an opportunity to make a multimedia presentation to promote their structure.

Art – The teams will also create a creative storyboard that tells the story behind their structure.

- **Miscellaneous**
  After the competition the kosher food items will be donated to the Shalom Food Pantry and then each team can pick which food pantry they would like to donate their non-kosher items to.

Theme Exploration

The first step is to figure out what your team wants to build. This step includes a lot of brainstorming and quick sketches. Exploring an idea through drawing allows you to begin to visualize the model and understand if it a feasible idea. Part of this exercise is to begin to identify what types of food items might be good--this will certainly be refined but it is important to consider the form of what you'd like to build and how it relates to the available building materials aka CANS!



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Example image of a preliminary sketch. Nothing fancy but begins the process.

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Plan Your Structure

Once your team decides what to build, it's time to start designing. This step involves trips to the store, looking at can labels and sizes, and developing "construction drawings".

It is critical that your team visualizes the structure in order to make decisions, determine feasibility, and communicate your design intent. This can be done through drawing and model building.

- Drawing: Either drawing by hand or on the computer using some sort of Computer Aided Design (CAD) software,students can explore their design using the different types of construction drawings (plan view, section, elevation, axonometric).

- Model building: Either making a physical model or 3-D computer model, students can explore their design and make decisions. Students could model parts of the design using cans themselves or create a scaled model (small model) of the entire design using other materials (clay, legos, beads, block, etc). Or students could utilized a 3-D modeling program like SketchUp to actually "build" a model of the structure on the computer. SketchUp has a free online version of the program as well as various education licenses that schools could explore.

Teams will need to submit dimensioned drawings so that we can review them. Throughout the design process it is really important to think ahead to how the structure will be constructed on build day. For large structures (sea turtle), we had to think about building in sections, which influenced our design.

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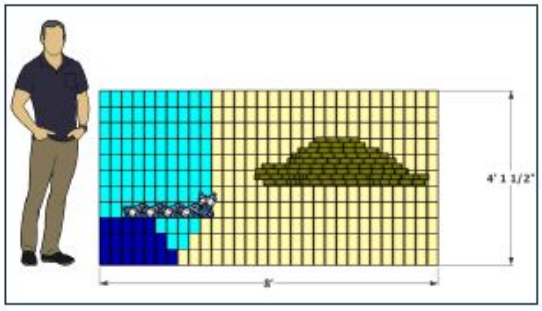
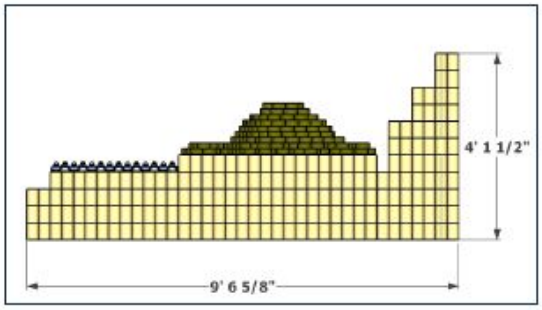
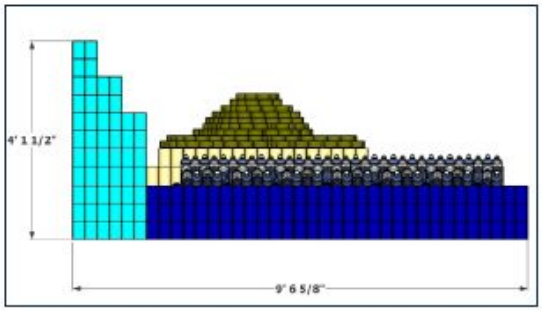


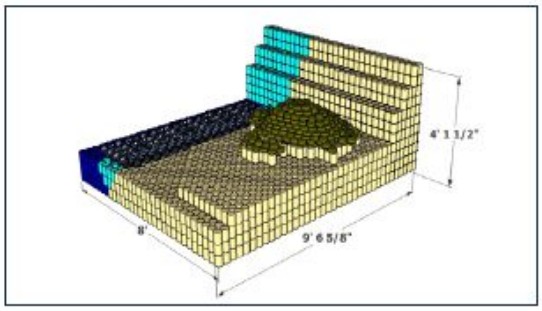
Front Elevation



Side Elevation 1



Side Elevation 2



Perspective

This is an example of a dimensioned drawing. The perspective view isn't necessary for this but is something that is easily produced using SketchUp. The other drawings could very easily be produced by hand. This would be an excellent lesson about scaled drawings.

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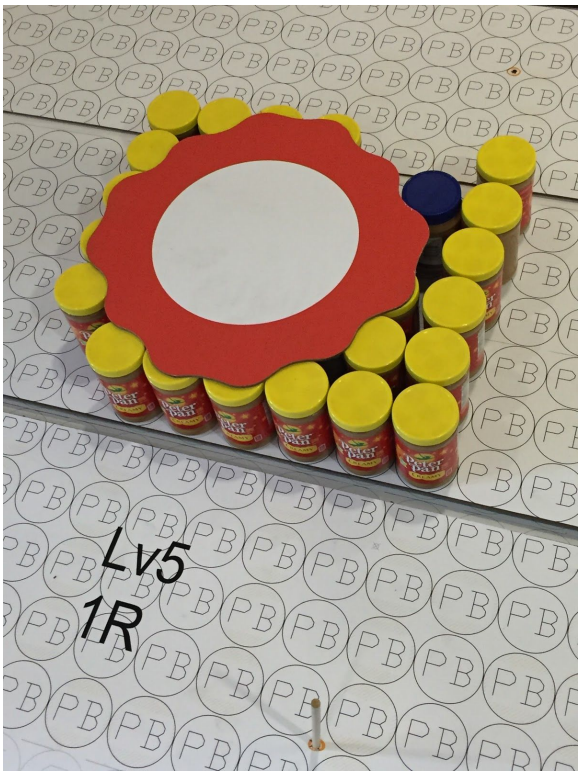
Get Ready to Build

With the design complete, it's time to develop a guide for build day. This guide would typically be made up of step by step instructions of how to actually build the structure and templates. Templates map out where each type of can will go, level-by-level. We usually print the templates onto paper and then mount the paper onto a thin (¼") board. The board helps to level out the cans and distribute the weight throughout the structure. Creating the templates will often require lots of paper (we use a giant plotter), spray mount, boards, and a jigsaw.



Sample of templates. The circles represent the cans or in this case, jars of peanut butter. On build day, you will know what to place and where.

Build Day

Follow your step-by-step instructions and build your structure! Every member of the team should review these instructions beforehand so that all questions can be answered. Communication and teamwork is key. It's important to remember why you're there and that it's supposed to be fun.