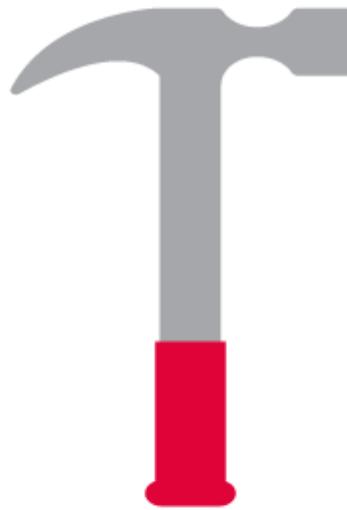


SCNL PRESENTS

# MAKING AT HOME

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WORKBOOK



## Making at Home – Mobile Crane/Welding

### **Overview**

“Wisdom is not a destination; wisdom is just a bridge. It takes you from a misty world and takes you to a sunny world where you can see everything clearly!”

— **Mehmet Murat ildan**

There are many different trade and technology careers involved in building a Truss Bridge. Thinking about this for a second, one thing comes to mind is that many structures around us have multiple people who have worked on them. The art of building a truss bridge has so many different aspects of design and technology mixed into one key element: the science or art of building and designing a structure. Everything around you in a small town or a large city has been designed for the most part by an architect but had been worked on by many different skilled trades workers. Keep the trade in mind as you create your own design for this challenge.

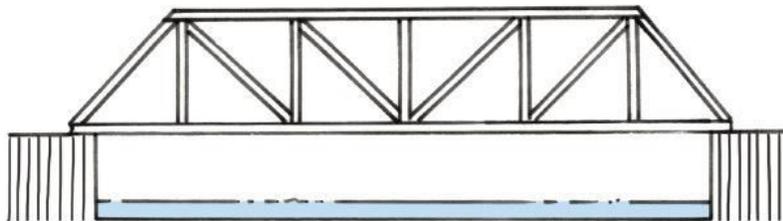
### **Design Challenge**

Imagine that you must connect two cities together with a truss bridge that has to be built over a rapidly flowing river. This structure will have to be solid, be able to hold the weight of a vehicle and be structurally sound. If you want the bridge to be able to allow boats in and out of a harbour, you will need to include a way which this is possible as well. What skilled trades workers would you need to complete this project? What design challenges do you think would need to be resolved? How will the bridge be made functional?

Design a blueprint for your design keeping in mind a prototype will be created as well. What would the architecture look like? How will you create a prototype of this design? How will you decorate it? How large will it be? How wide? Be creative!

### **Building & Turning Your Sketches into reality - Turn your ideas into a real-life prototype!**

Gather simple materials and start building a masterpiece! Safety is #1 so ask an adult for help when using hot tools!



## Problem Scenario

Here are some guidelines to keep in mind before you start:

- You must include a sketch of your design in your final project.
- You can use things you find around your home to create the structure, but popsicle sticks and glue are recommended.
- Keep in mind which skilled trades workers you will need to “hire” for this project. What will you ask them to do to make this design successful?
- Is your design functional? If not, what else will you need to add?

## Success Determinacies

Success will be determined by the degree to which your design solution:

- Addresses the design challenge.
- Addresses an identifiable need for the end-user.
- Uses many materials, resources, and tools.
- Is accompanied by a highly elaborate sketch illustrating functionality.
- Shows your understanding of how the architecture trade applies to this challenge.
- Is whimsical and makes whoever views it smile?
- Has a clear theme or story behind each element (the reason why you choose the structure you did)?
- Is aesthetically pleasing and well constructed.
- Is creative, futuristic, innovative and reliable.

## Parameters

- Make sure you are keeping in mind that the bridge will be over water.
- Can it hold weight? If not, how can you fix that?
- Create one unique feature of your bridge.  
Must be structurally sound & able to connect one city to the next.

## Questions

1. Name four skilled trades or technology workers you would need to hire to complete this house:

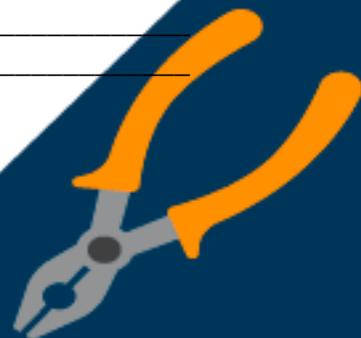
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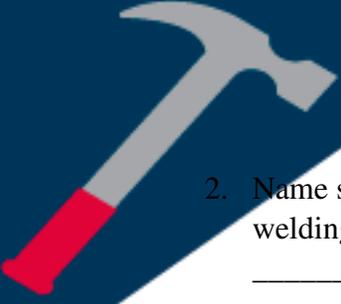
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2. Name something you found interesting or did not know or find about architecture, welding or being a crane operator:

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3. Name one challenge you came across during the design process of this task. How did you overcome it? If no challenges occurred, what was your favourite part about your design? Explain.

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4. Name one thing you learned from completing this activity.

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5. Are you interested in pursuing a career in the skilled trades or technology field? If so, which one & why?

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More Examples if you're feeling more creative

