



# Makerspace at Home

Makerspace is a mindset more than a physical space or fancy tech or materials. Lots of free, trash/recyclable items or household materials you already have on hand can be used. It's all about thinking creatively with what you have, without instructions, and exploring the basic engineering concepts of how materials can be manipulated and work together to make something new.

## Material Ideas

- **Recyclables:** cardboard, plastic, newspaper, paper towel and TP rolls, disposable cutlery, straws, packing materials, aluminum foil
- **Craft Supplies:** string, yarn, pipe cleaners, popsicle sticks, beads, fabric, ribbon, felt.
- **Office Supplies:** paperclips, index cards, binder clips, rubber bands, brads, paper.
- **Other:** Zip ties, twist ties, duct tape, washers, screws, scraps of wood, broken toys, ANYTHING!
- Tape or Glue.
- Scissors.

## Don't have any materials?

Making isn't limited to physical things!

- Draw a blueprint of your design ideas instead.
- Write a story about what you'd use to build your idea.





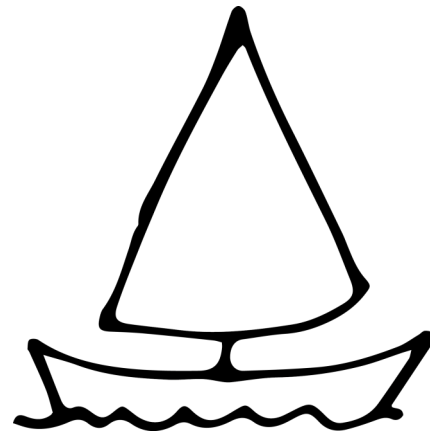
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## Idea Prompts

- Make an animal that lives on land.
- Make an animal that lives in the ocean.
- Make a boat that floats.
- Make a marble maze or race track.
- Make a bridge to support toy cars.
- Make a piece of jewelry.
- Make a piece of furniture for a doll.
- Make a robot or person with movable arms and legs.
- Make a model of a tech device.
- Make a parachute for a toy.
- Make something that launches.
- Make something that lifts.

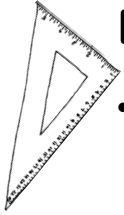
## Make it a Challenge

Limit your materials. Can you make an animal with just 4 paperclips and an index card? How about a sail boat with just some foil?





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## Engineering Design Process

- **PLAN:** *Brainstorm/Design– What materials will you need and how much?*
- **CREATE:** *Build Prototype (1st draft).*
- **TEST:** *Does it “work” as intended, what can be changed for the better?*
- **ITERATE:** *re-design, improve, re-make.*
- **SHARE:** *Show off your project to others, explain how you made it.*



## Online Resources

- Exploratorium “Tinker Around Your House”  
<https://www.exploratorium.edu/education/tinkering-projects>
- 10 Projects to Jump Start Your Makerspace  
<https://www.sciencebuddies.org/blog/makerspace-projects>
- 100 Engineering Projects for Kids  
<https://thehomeschoolscientist.com/100-engineering-projects-kids/>