

# Engineering

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CUB CHAT LIVE!

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MAY 9, 2025



# STEM Adventures

**BOLD** indicates new adventure  
*Italics* indicate existing adventure



Kindergarten



1<sup>st</sup> Grade



2<sup>nd</sup> Grade



3<sup>rd</sup> Grade



4<sup>th</sup> Grade



5<sup>th</sup> Grade

STEM						
Science	<i>Ready Set Grow</i>	<i>Sky Is the Limit</i>	<i>Digging in the Past</i>	<i>Forensics</i>	<i>Earth Rocks!</i>	<i>Into the Woods</i>
Technology	<b>Everyday Tech</b>	<b>Tech All Around</b>	<b>Computing Wolves</b>	<b>Top Chef Tech</b>	<b>Tech on the Trail</b>	<b>High Tech Outdoors</b>
Engineering	<i>Gizmos and Gadgets</i>	<b>Designed by Tiger</b>	<i>Air of the Wolf</i>	Baloo the Builder	<b>Modular Design</b>	<i>Engineer</i>
Math	<b>Count on Me</b>	<i>Stories in Shapes</i>	<i>Code of the Wolf</i>	<b>Balancing Bears</b>	<b>Math on the Trail</b>	<b>Estimations</b>

# Be a Engineer

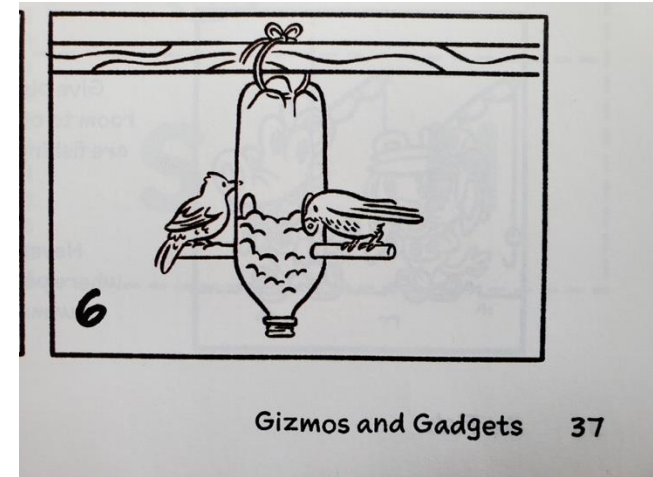
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ADVENTURE	EXPERIENCE
Gizmos and Gadgets	Explore Newton's Laws of Motion
Designed by Tiger	Use Engineering principles of Designing, Building and Improving
Air of the Wolf	Explore the fundamentals of Flight
Baloo the Builder	Learn to build things out of Wood
Modular Design	Understand and apply principles of Modular Design
Engineer	Learn about different Engineering fields and act like an Engineer

# Gizmos and Gadgets

## Newton's Laws of Motion

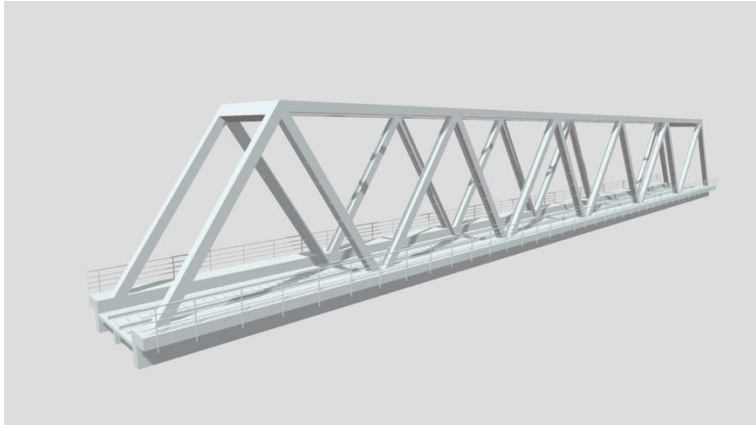
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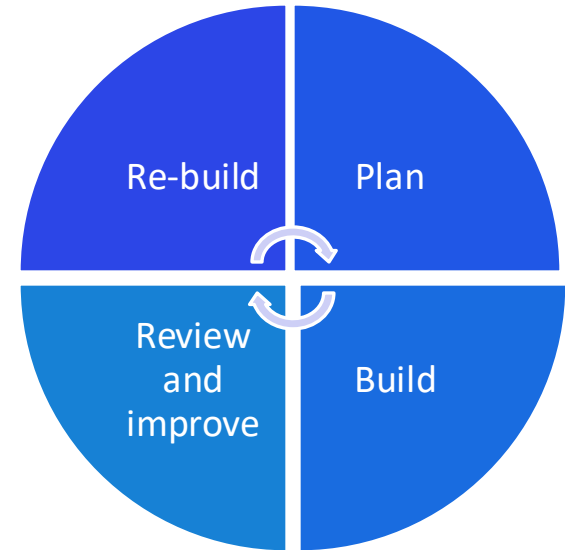
# Designed by Tiger

Designing, building, improving

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# Air of the Wolf

## Designing to fly

### HOW TO MAKE A PAPER AIRPLANE

With a single sheet of 8½-by-11-inch paper, you can make an awesome airplane. Look at the diagrams. Follow the steps and be sure your creases are precise. See how far your airplane will fly on five separate flights. Now look at your plane. How could you slightly change it to make it go farther? With the help of an adult, look online for free paper-airplane patterns that you can print out.



1. Fold paper in half.



2. Fold in corners.



3. Fold bent corners to meet in center.



4. Fold in half.

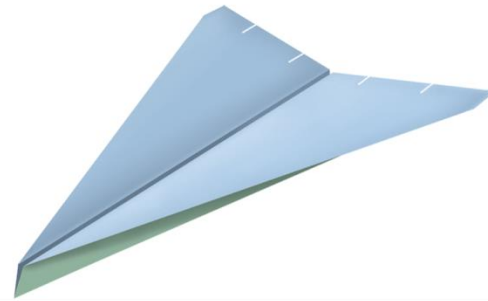


5. Fold down wings.



6. Fly!

### ARROW



### DELTA



Compare  
and  
Compete



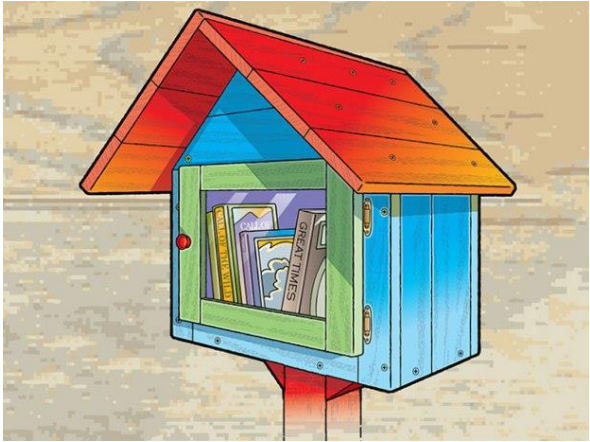
# Baloo the Builder

## Tools and their use

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Safety  
Purpose  
Practice



**BUILD !!**

Choose a project  
Identify tools and  
materials needed

# Modular Design Fundamentals

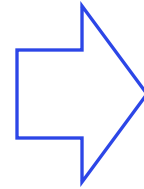
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**What is modular design?**  
**Benefits**  
**Examples**



**Free form  
construction**



**Instruction  
set**



**Validation**

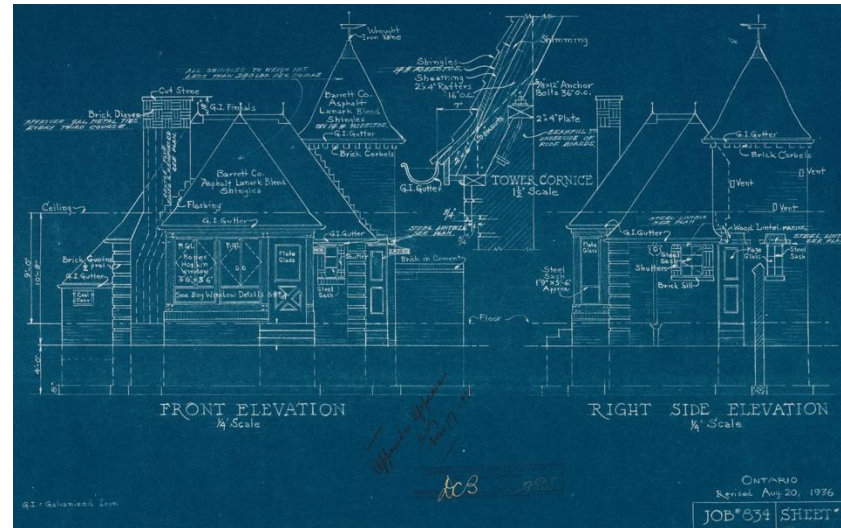


# Engineer

## All about engineers

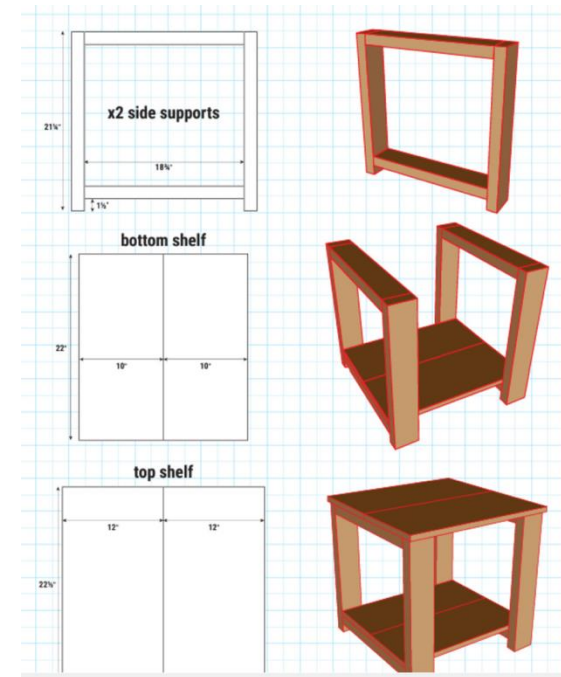


Meet an Engineer



Sample Blueprint

Choose field  
and  
Build



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Civil Engineering  
Electrical Engineering  
Mechanical Engineering

# Resources

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Multi-rank Den Guide:

<https://drive.google.com/drive/folders/1YWnFC89pRIOIXb1Hsym4iG8Bc3EiliK1?usp=sharing>

Cub Scout Den Meeting Resources: <https://www.scouting.org/programs/cub-scouts/adventures/>

Den Meeting Resources: <https://www.scouting.org/programs/cub-scouts/den-meeting-resources/>

Cub Scout Song Book Audio: <https://soundcloud.com/user-973700341/sets/cub-scout-song-book>

Annual Pack Programming Conference Roundtable Video: <https://vimeo.com/499382831>

Cub Scout Committee Chair Module (on Annual Program Planning for Cub Scouting): CS19

# Facebook Groups

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- Cub Scouting Tips and Tricks
- Cub Scout Volunteers
- Cub Scout Leaders Scouting Cubmasters Den Leaders