CUB SCOUT MEETING GUIDE

INVENTORS

CPC BSA
ADVANCEMENT ACADEMY

INTRODUCTION

This week's meeting is all about how simple machines like pulleys and levers help make our lives and jobs easier. We'll learn about the properties of motion, and what force is (no, not the Star Wars kind). We'll look at the incredibly wide and varied world of engineering careers, and some of the tools that those engineers use when designing new projects. We'll learn what it takes to create and use a set of blueprints when designing a new building, boat, or other project.

IN THIS GUIDE

- Lions: Gizmos and Gadgets

- Wolfs: Motor Away
- Bears: Make it Move
- Webelos: Engineer

HOW TO USE THIS GUIDE

Find your Den's Adventure and complete the activities, some activities can be completed at home and others will be completed in our meeting, this is indicated with a yellow or blue star.

COMPLETE AT HOME

COMPLETE IN MEETING

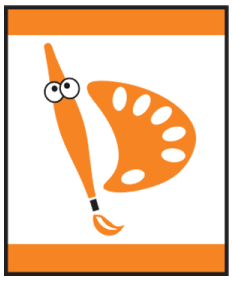
LIONS

GIZMOS AND GADGETS

COMPLETE ALL REQUIREMENTS

1. Explore properties of motion.
2. Explore properties of force.
3. Use household materials to create a useful object.

TIGER

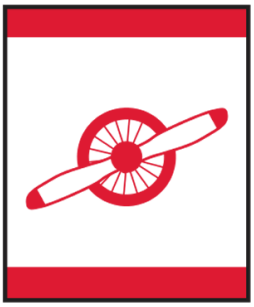


STORIES IN SHAPES

Complete at least four of the following requirements.

1. Visit an art gallery or a museum, explore an art website, or visit your library.
2. Look closely at pictures of some art with your den or a family member. Decide what you like about the art, and share your ideas with the other Tigers.
3. Create a piece of art on paper, poster board, or canvas.
4. Draw or create an art piece using shapes.
5. Use tangrams to create shapes.

WOLF



MOTOR AWAY

Complete The following requirements.

1. Do each of the following.
   - a. Create and fly three different types of paper airplanes. Before launching them, record which one you believe will travel the farthest and what property of the plane leads you to make that prediction.
   - b. Make a paper airplane catapult. Before launching a plane, record how far you believe it will travel and explain what information you used to make this prediction. After you make your prediction, launch the plane and measure how far it flies.
2. Make two different model boats and sail them. Choose different shapes for your boats.
3. Create a model car that moves under its own power.

BEARS

Make It Move

Complete all of the following:

1. Create an "exploding" craft stick reaction.
2. Make two simple pulleys, and use them to move objects.
3. Make a lever by creating a seesaw using a spool and a wooden paint stirrer. Explore the way it balances by placing different objects on each end.
4. Do one of the following:

a. Draw a Rube Goldberg-type machine. Include at least six steps to complete your action.

b. Construct a real Rube Goldberg-type machine to complete a task assigned by your den leader. Use at least two simple machines and include at least four steps.

WEBELOS

ENGINEER

Complete at least Requirements 1 and 2. Requirements 3 and 4 are optional.

1.Pick one type of engineer. With the help of the Internet, your local library, or an engineer, discover three things that describe what that engineer does. (To use the Internet, be sure that you have a current Cyber Chip or that you have permission from your Webelos den leader, parent, or guardian.) Share your findings with your Webelos den.

2.Learn to follow engineering design principles by doing the following:

a. Examine a set of blueprints or specifications. Using these as a model, prepare your own set of blueprints or specifications to design a project.

b. Using the blueprints or specifications from your own design, complete your project. Your project may be something useful or something fun.

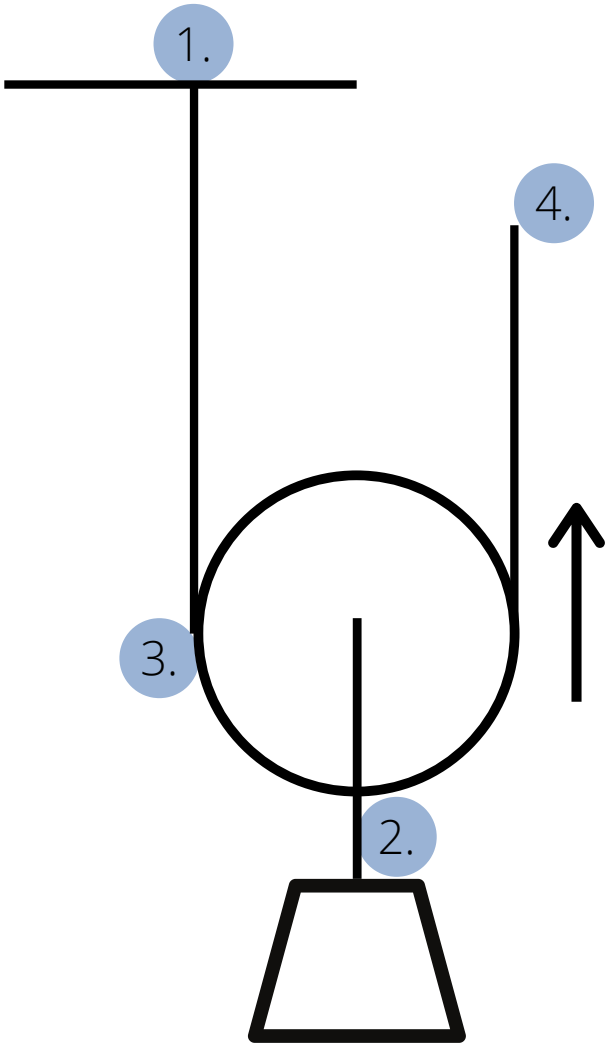
c. Share your project with others at a den or pack meeting.

3. Explore other fields of engineering and how they have helped form our past, present, and future.

4. Pick and do two projects using the engineering skills you have learned. Share your projects with your den, and also exhibit them at a pack meeting.

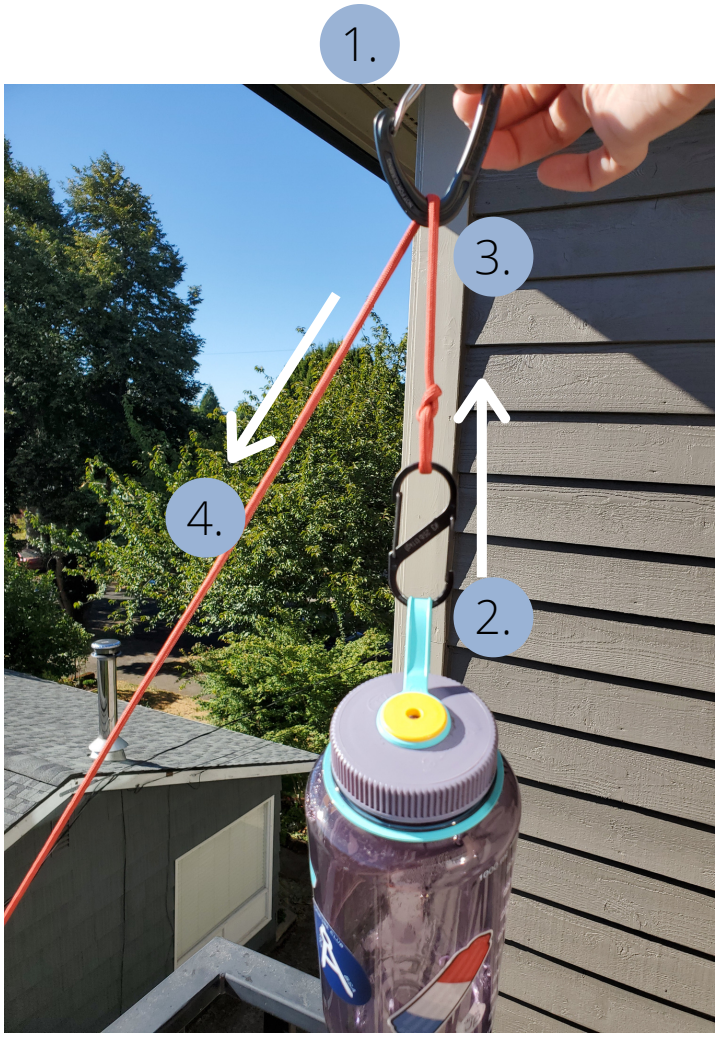
PULLEY GUIDE 1: MOVABLE PULLEY

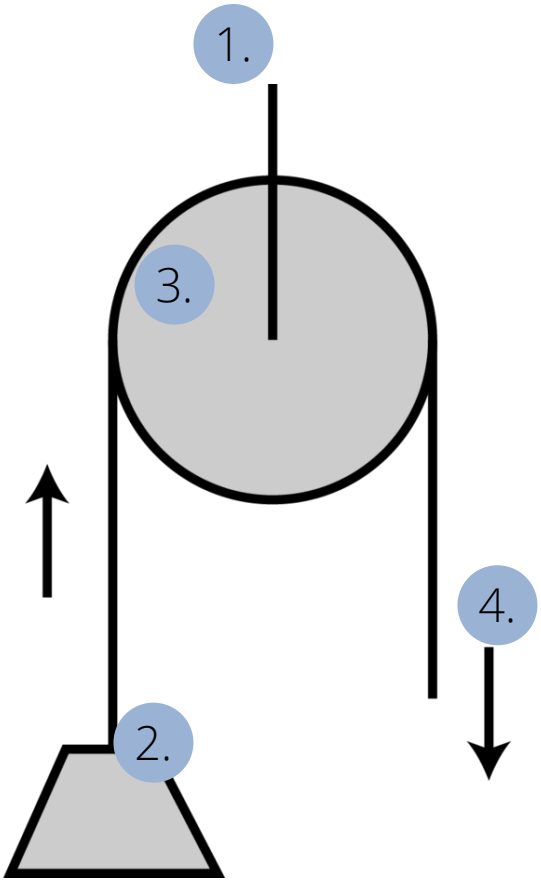
1. A movable pulley system is when the pulley is attached to the object it is being used to lift, and moves with the object as it is lifted
2. One end of the rope is attached above the object that is being lifted
3. The rope then goes through the pulley
4. The other end of the rope is used to lift the object



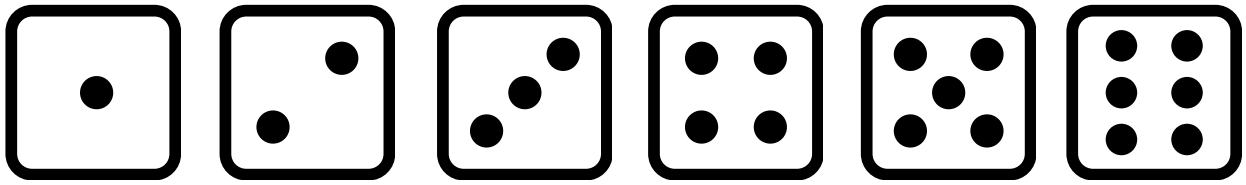
PULLEY GUIDE 2: FIXED PULLEY

1. A fixed pulley system is when the pulley is attached above the object it is being used to lift
2. One end of the rope is attached to the object that is being lifted
3. The rope then goes over the pulley
4. The other end of the rope is used to lift the object

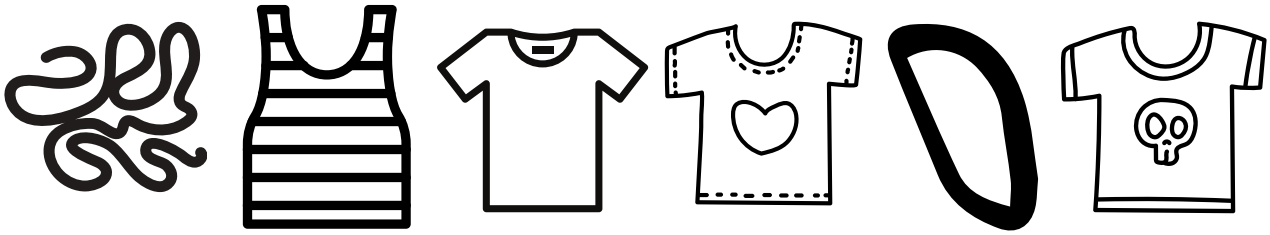




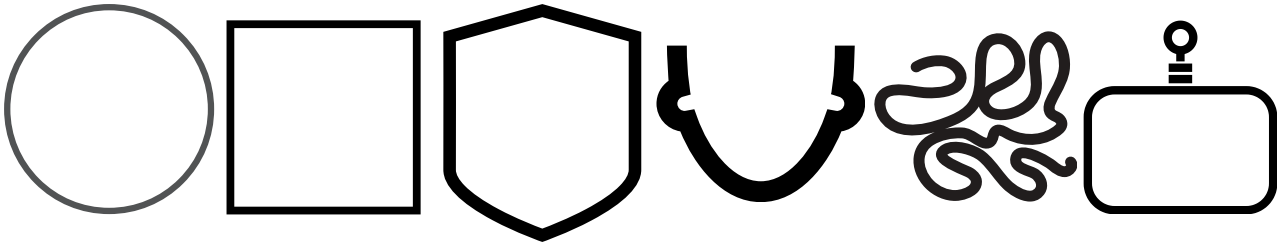
Roll A Dice Art Project



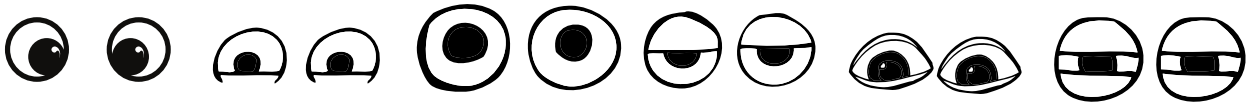
Body



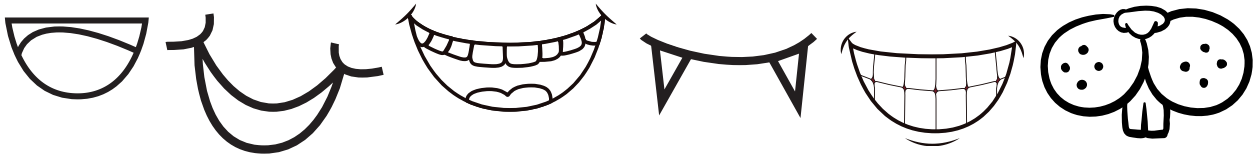
Head



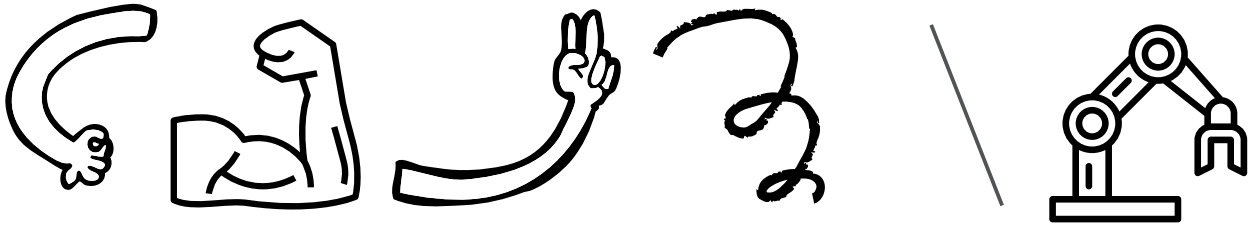
Eyes



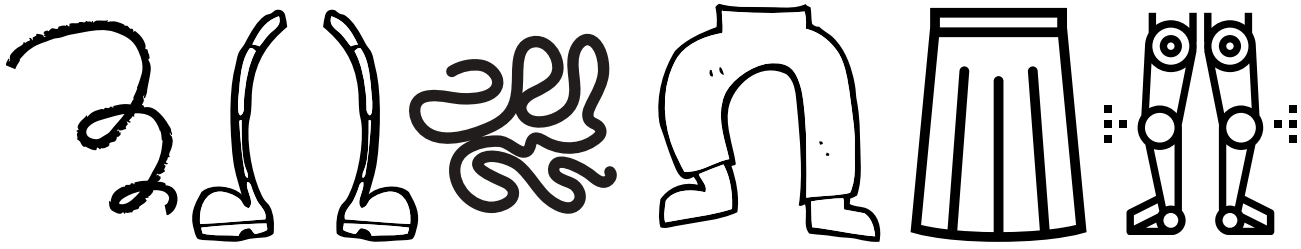
Mouth



Arms



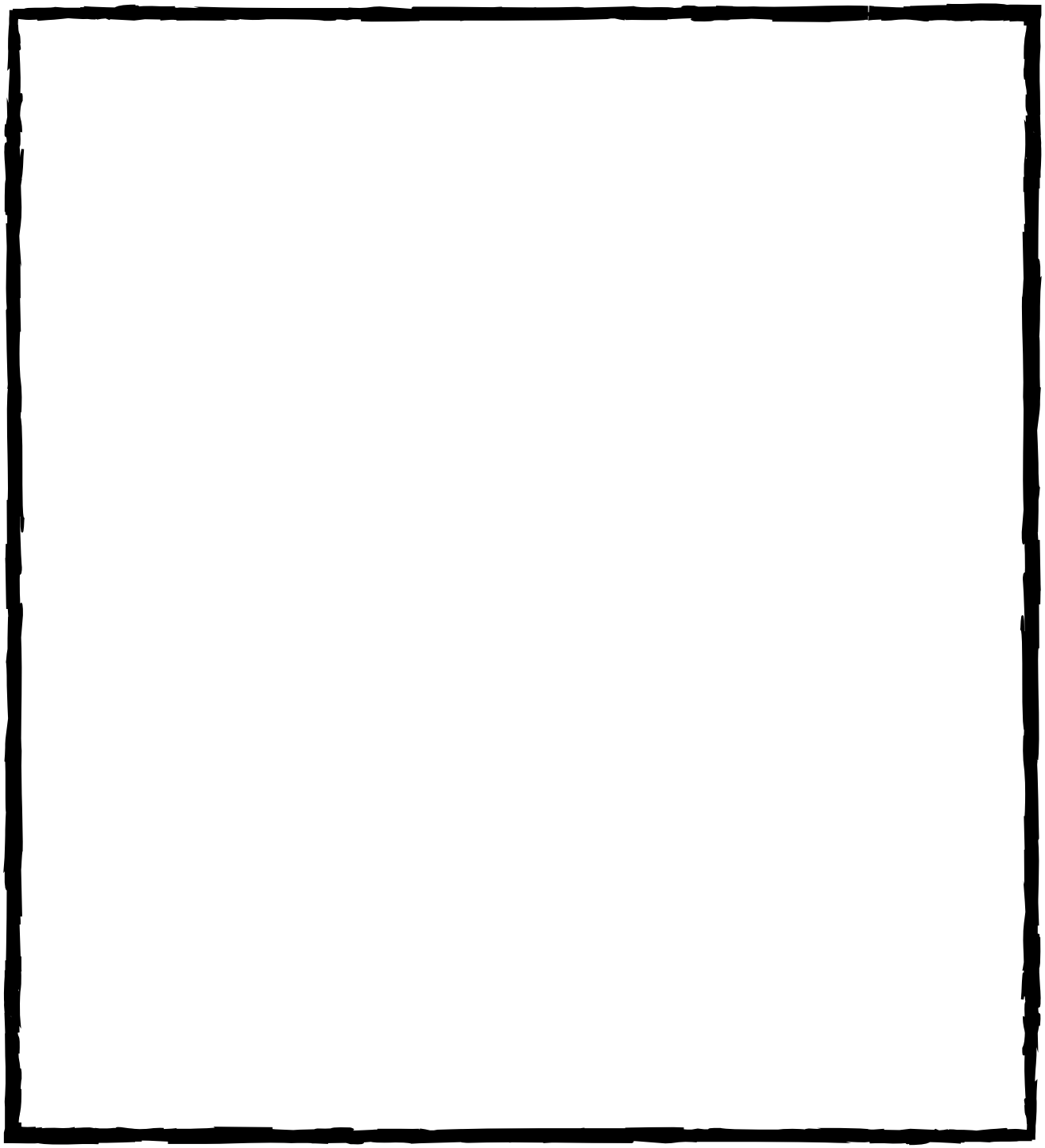
Legs



Roll A Dice Art Project

Directions:

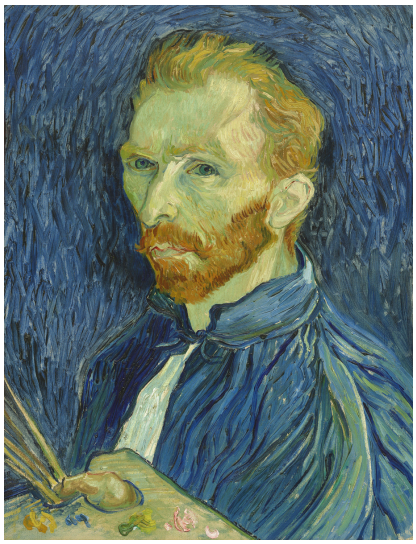
1. Find a dice in your home, you can borrow from a game!
2. Starting with the body, roll your dice and draw the shape that matches the number
3. Continue to roll your dice until you've drawn every part
4. Play as many times as you want! Experiment adding additional body parts or connecting them in unique ways.



Artist Notecards

Claude Monet
Oscar-Claude Monet was a French painter, a founder of French Impressionist painting. Monet preferred to paint outdoors, also known as "Plein Air".
Born: November 14, 1840, Paris, France
Died: December 5, 1926, Giverny, France

Pablo Picasso
Pablo Ruiz Picasso was a Spanish painter, sculptor, printmaker, ceramicist and theatre designer who spent most of his adult life in France.
Born: October 25, 1881, Málaga, Spain
Died: April 8, 1973, Mougins, France



Vincent Van Gogh
Vincent Willem van Gogh was a Dutch post-impressionist painter who is among the most famous and influential figures in the history of Western art. In just over a decade, he created about 2,100 artworks, including around 860 oil paintings, most of which date from the last two years of his life.
Born: March 30, 1853, Zundert, Netherlands
Died: July 29, 1890, Auvers-sur-Oise, France

Artist Notecards

Kehinde Wiley

Kehinde Wiley is an American portrait painter based in New York City, who is known for his highly naturalistic paintings of Black people. He was commissioned in 2017 to paint a portrait of former President Barack Obama for the Smithsonian National Portrait Gallery, which has portraits of all the U.S. presidents.

Born: February 28, 1977, Los Angeles, CA

Mary Cassatt

Mary Stevenson Cassatt was an American painter and printmaker. She was born in Allegheny City, Pennsylvania, but lived much of her adult life in France where she befriended Edgar Degas and exhibited with the Impressionists.

Born: May 22, 1844, Allegheny

Died: June 14, 1926, Château de Beaufresne, Le Mesnil-Théribus, France

Faith Ringghold

Faith Ringgold is a painter, mixed media sculptor, performance artist, writer, teacher and lecturer. She received her B.S. and M.A. degrees in visual art from the City College of New York in 1955 and 1959. Professor Emeritus of Art at the University of California in San Diego, Ringgold has received 23 Honorary Doctorates.

Born: October 8, 1930, Harlem, New York, NY

PAPER AIRPLANE BUILD

Build 3 paper airplanes and predict how far they will fly. Write down what makes each airplane unique. Use our airplane template, if you want!

AIRPLANE 1

How far I think it will fly

How far it actually flew

AIRPLANE 2

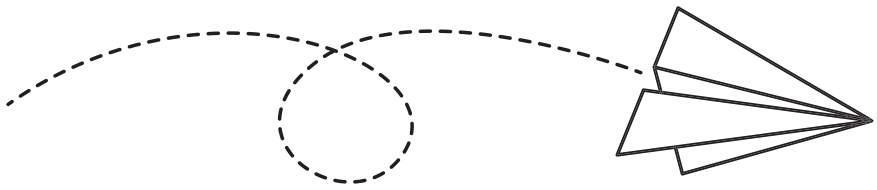
How far I think it will fly

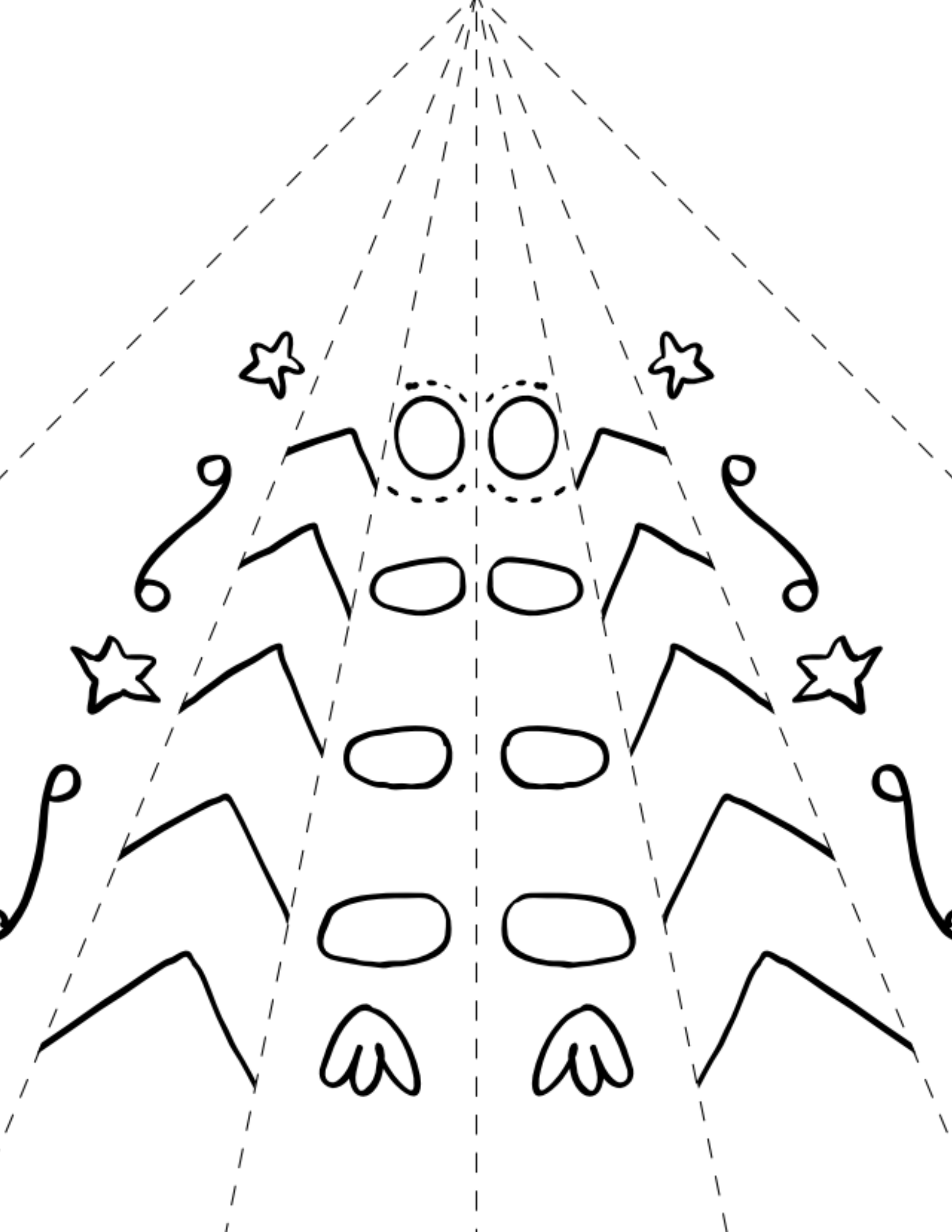
How far it actually flew

AIRPLANE 3

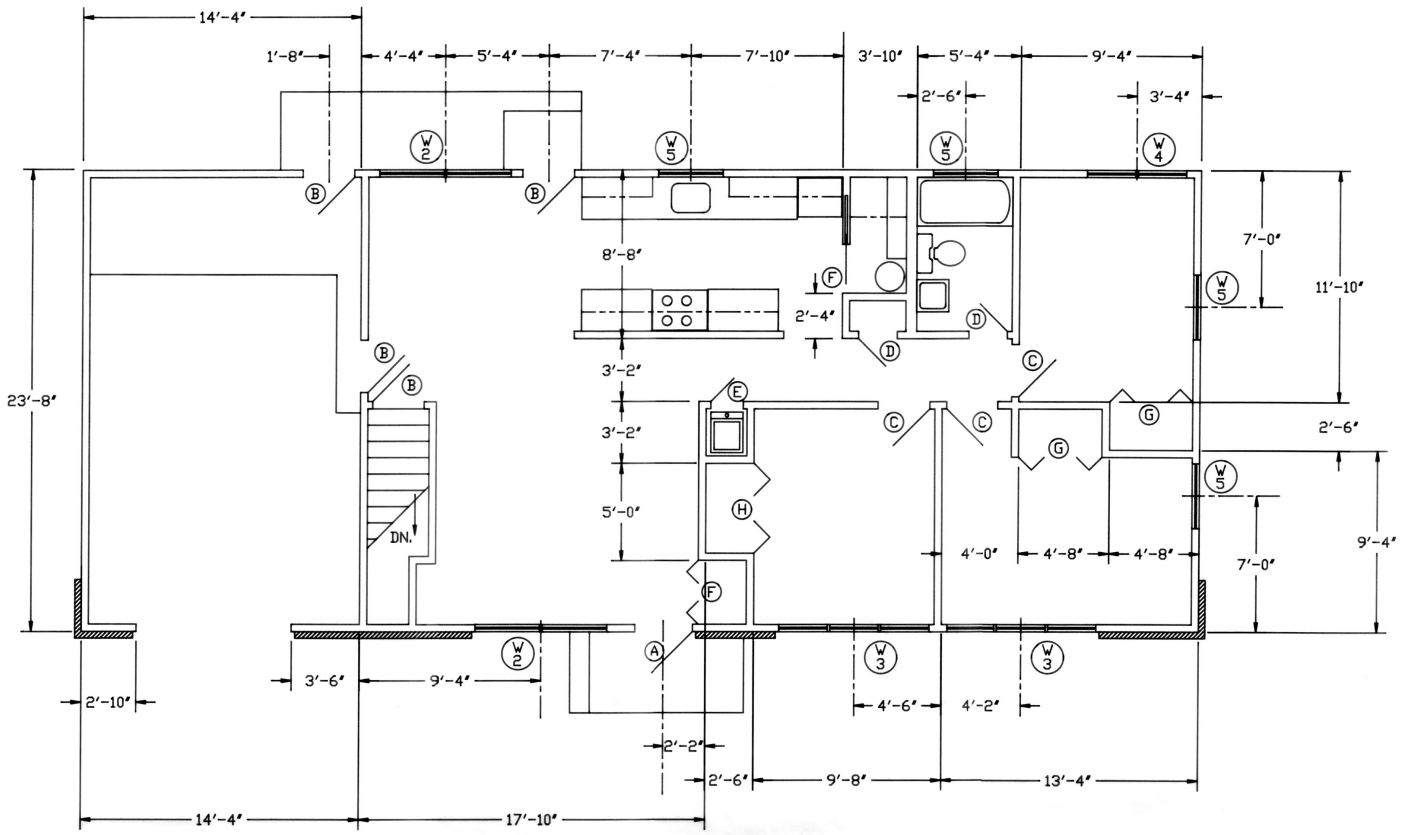
How far I think it will fly

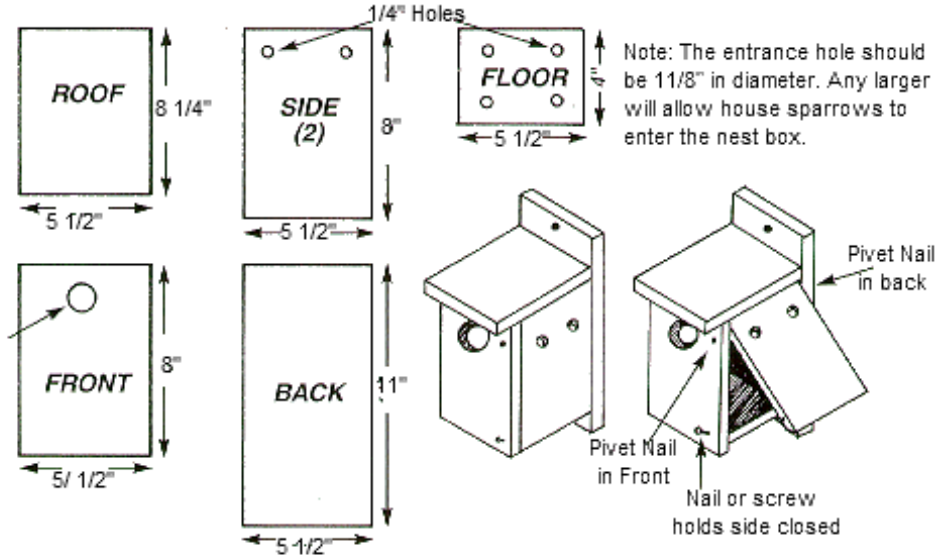
How far it actually flew





BLUEPRINT EXAMPLES





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