
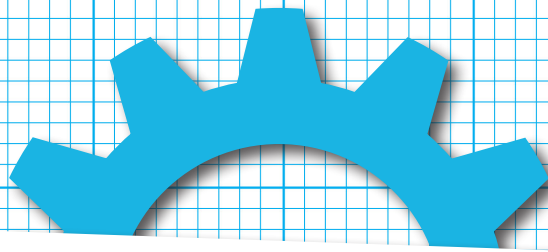


PAPER BIRD FLYERS



Left  Craft
Brain Brain

inspiring young engineers, one craft at a time



DISCOVER. MAKE. PLAY. LEARN.

WHAT IS STEAM?

STEAM IS THE ABBREVIATION FOR SCIENCE, TECHNOLOGY, ENGINEERING, ART, & MATH.

It's an integrated approach to learning that encourages students to think more broadly about real-world problems.

WHY DO WE NEED THE A IN STEAM?

Because art makes STEM better! Here are some of the concrete benefits of incorporating the arts into science:

- It helps remove idea inhibition (there's no wrong answer in art!).
- It focuses on the process which helps drive innovation.
- It teaches the power of observation, of people and your surroundings.
- It helps hone spatial awareness and mathematical concepts like geometry.

SAFETY FIRST!

STEAM EXPLORERS PROJECTS ARE INTENDED TO BE PERFORMED UNDER ADULT SUPERVISION. Although Color by Coding is a low risk activity, we like to leave this here... Appropriate and reasonable caution is recommended when activities call for any items that could be of risk, including, but not limited to: sharp tools, hot glue, chemicals, batteries, scissors, and small items that could present a choking hazard. If you are unsure of the safety or age appropriateness of an activity, please consult your child's doctor.

WHAT'S INSIDE:

- **THIS ACTIVITY IS A RECIPE FOR FUN WITH FLIGHT! SIMPLY PRINT, COLOR, AND THEN CONSTRUCT TO MAKE YOUR BIRDS REALLY SAIL.**



STEAM Explorers is a monthly digital magazine plus kid-safe online project portal filled with STEAM. It's loaded with a monthly activity calendar, fun articles to read, jokes to tell, projects to do, printables to color, videos to watch, and more. Kids will enjoy making, playing, discovering, and learning their way through each month's issue!

YOU CAN LEARN MORE ABOUT STEAM EXPLORERS HERE:
LEFTBRAINCRAFTBRAIN.COM/EXPLORESTEAM

HOW TO JOIN THE STEAM EXPLORERS & LEFT BRAIN CRAFT BRAIN COMMUNITY

STEAM Explorers (and Left Brain Craft Brain, too) is a global community! Come get activity ideas, chat about STEAM, and share your pictures with us on both Facebook and Instagram. We love to see all of the ways you incorporate STEAM into your kids' worlds!

[LEFT BRAIN CRAFT BRAIN FACEBOOK PAGE](#)

[LEFT BRAIN CRAFT BRAIN ON INSTAGRAM](#)

BIRD FLYERS

BUILD A BIRD
THAT REALLY FLIES!

DIFFICULTY: ●●●

TIME: 30 MINUTES

SUPPLIES:

- Template
- Paper
- Markers or colored pencils
- Paper Straws
- Scissors
- Clear tape
- Playdough



INSTRUCTIONS:

1. Print out template and color the feathers with markers or colored pencils. Want to design your own wings? Use the template as a pattern and cut plain paper.
2. Cut out along the outer black lines.
3. Attach the **WINGS** piece to the middle of the straw with clear tape.
4. Fold **TAIL PIECE 1** in half at the center dotted line. Then again at the dotted lines that run through the wings.
5. Place end of straw on **TAIL PIECE 2** and tape securely.
6. Place folded **TAIL PIECE 1** on top of **TAIL PIECE 2** so it lines up. Attach with clear tape.
7. Add a ball of playdough to the end of the straw in front of the wings to give the bird some weight.
8. Now fly!



TROUBLESHOOTING:

Engineering often requires what's called iteration. Design, test, optimize, repeat. Here are some hints to help your bird fly better:

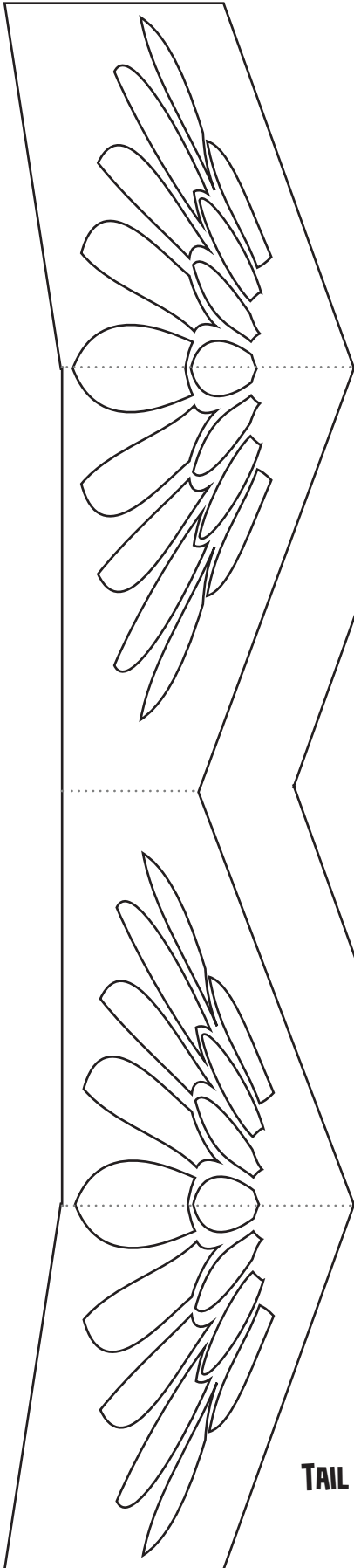
- Does it fly upside down? The tail piece might be crooked.
- Does it dive bomb? Try changing the amount of playdough on the nose.

WHAT'S THE STEAM BEHIND IT?

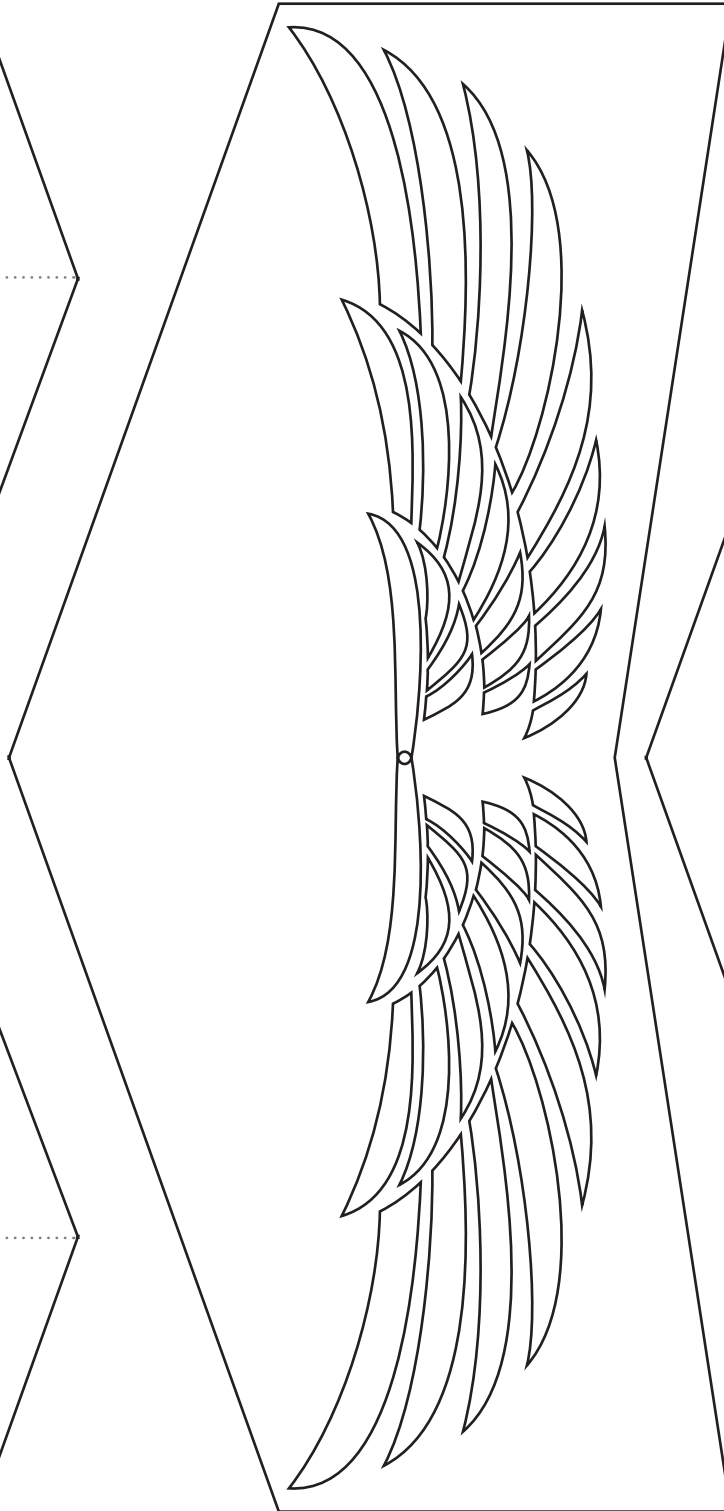
Birds use two things to make themselves fly: Lift & Thrust. When air quickly moves across a bird's wings, it creates a difference in pressure between the top and bottom of the wing, causing the wing (and the bird!) to rise or lift. The second thing that makes birds fly is thrust. In order to get that fast moving air on the top of their wings, birds flap them. As they push their wings down creating thrust, the air speeds up and lift takes place.

BIRD FLYERS TEMPLATE

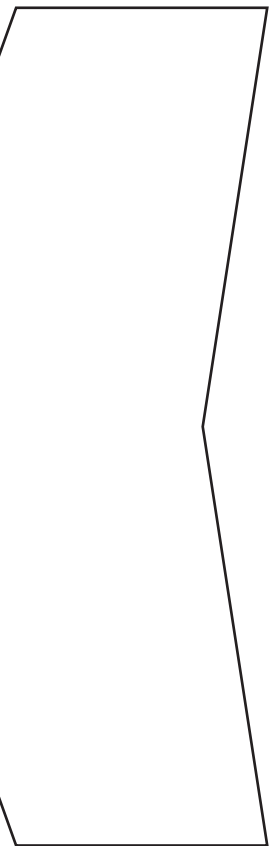
PRINT. COLOR. CUT OUT ALONG THE OUTER BLACK LINES.
ATTACH TO STRAW WITH TAPE. ADD PLAYDOUGH HEAD. FLY!



TAIL PIECE
1



WINGS



TAIL PIECE
2

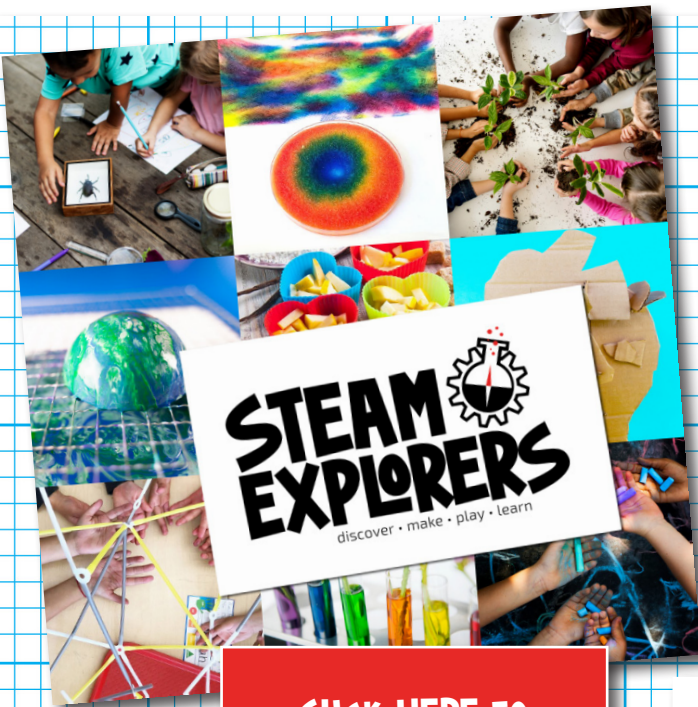
NEED MORE ACTIVITIES? SUBSCRIBE TO STEAM EXPLORERS!

EXPLORE WITH US FOR 25% OFF!
USE THE CODE **BIRDFLYERS**

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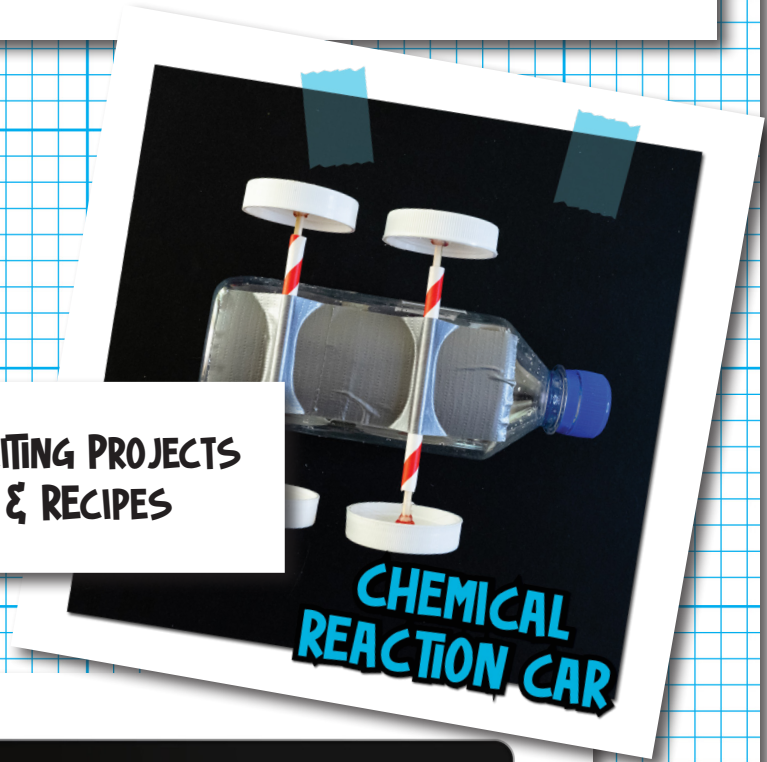
HERE'S A PEEK AT SOME OF THE OTHER AMAZING THINGS YOU'LL FIND INSIDE A STEAM EXPLORERS DIGITAL MAGAZINE AND THE ONLINE PROJECT PORTAL!



STEAM EXPLORERS
discover • make • play • learn

CLICK HERE TO SUBSCRIBE TO STEAM EXPLORERS!

EXCITING PROJECTS & RECIPES

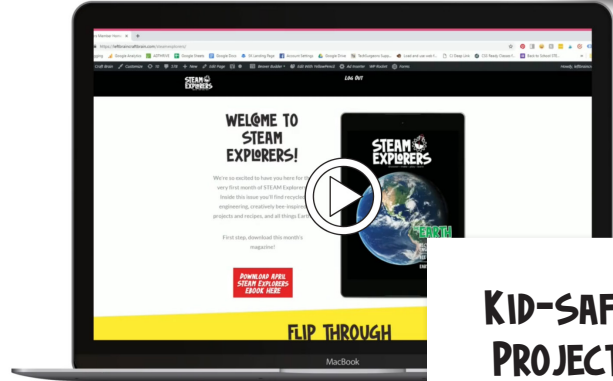


12 FUN FACTS ABOUT BEES



FUN PRINTABLES & ARTICLES

5 Bees can only see ultra violet rays. They see the world through ultraviolet light.
6 It takes approximately 1,000 bee stings to be fatal to a healthy adult human.
7 Honey bees live in hives called colonies. There are three types of bees in a colony. The queen is the largest, her job is to lay eggs for the new generation of the hive. Workers are the smallest bees who do all the work. Drones are the male bees who mate with the queen.
8 Only female bees sting.
9 Honey bees communicate with each other via dancing. When there is a lot of nectar nearby, they use the Round Dance. If it's further away, they use the Waggle Dance which communicates the direction of the food source.
10 Those bees you see flying around your food to them! They are an important part of our food chain because they pollinate approximately 80% of all vegetables, fruit and seed crops in the USA.
11 The world's bees are being impacted by Colony Collapse Disorder (CCD), a problem where the worker bees in a colony disappear and the queen or drones are left trying to figure out the cause but believe that stress, pesticides and parasites are the main culprits. The good news is that CCD is on the decline in recent years.
12 There are over 20,000 species of bees in the world.



KID-SAFE ONLINE PROJECT PORTAL



HELPFUL VIDEOS

BONUS RESOURCES FOR THE ADULTS

