

What can the wind blow?

Create wind
using:



- . A fan
- . A Balloon Pump

Try blowing at different objects:

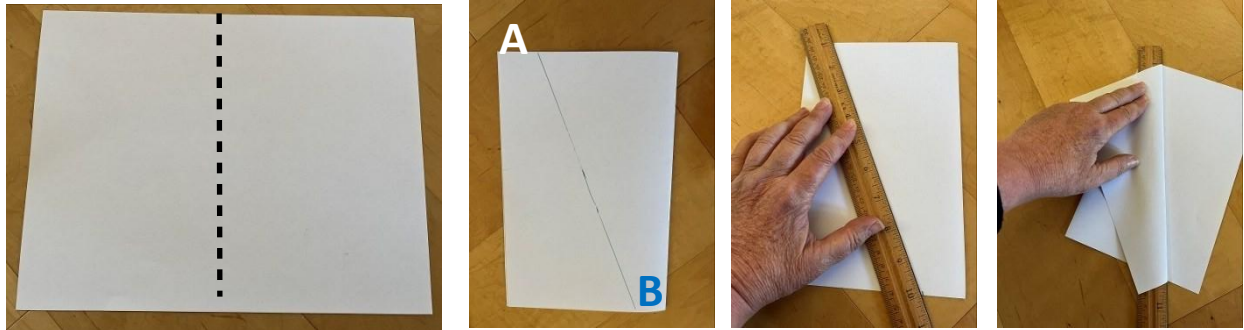
- . What is easy to blow around?
- . What will move a little in the wind?
- . What doesn't move at all in the wind?



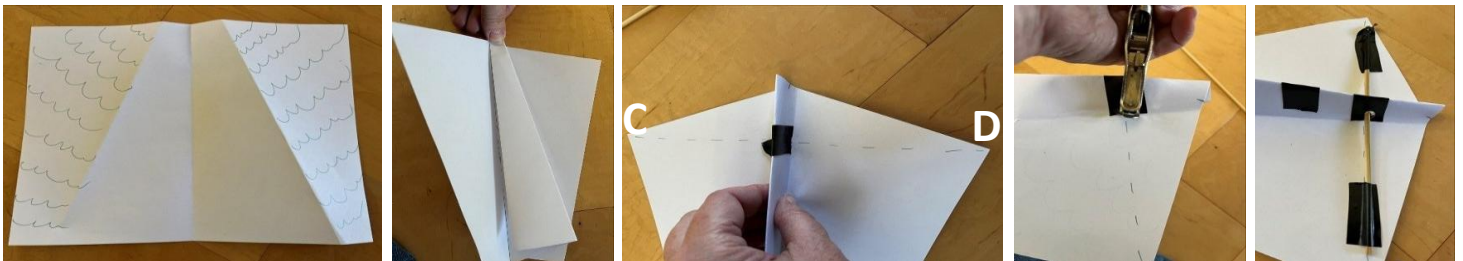
Paper fans, balloon pumps, random objects

Make a Kite

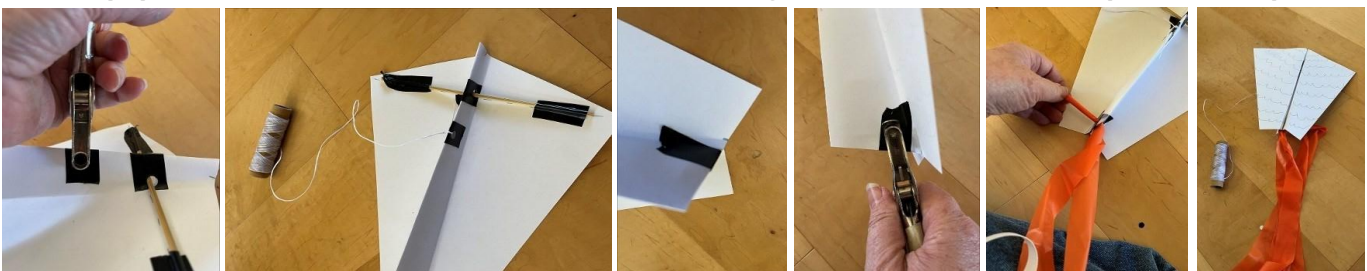
- Fold paper in half crossways.
- Mark point A (~1 inch from folded edge), point B (~1 inch from other edge)
- Fold back top layer on diagonal from point A to B
- Make the same diagonal fold on the other side



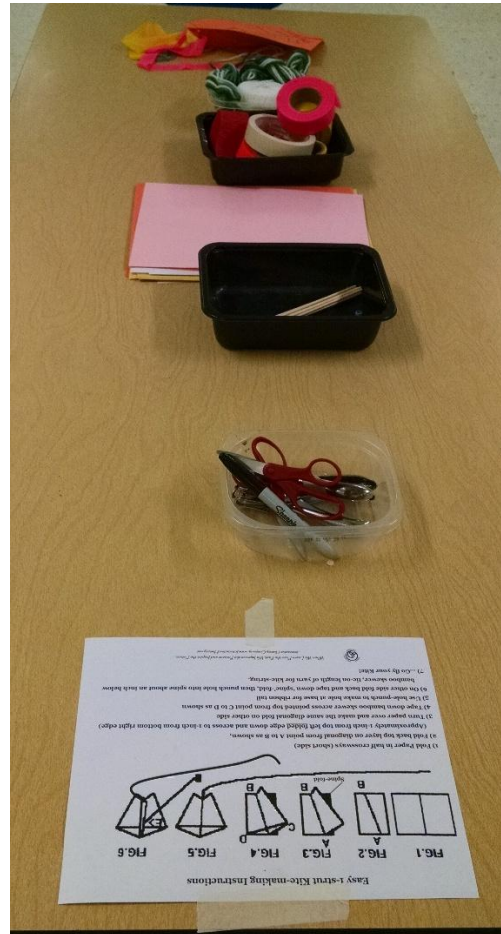
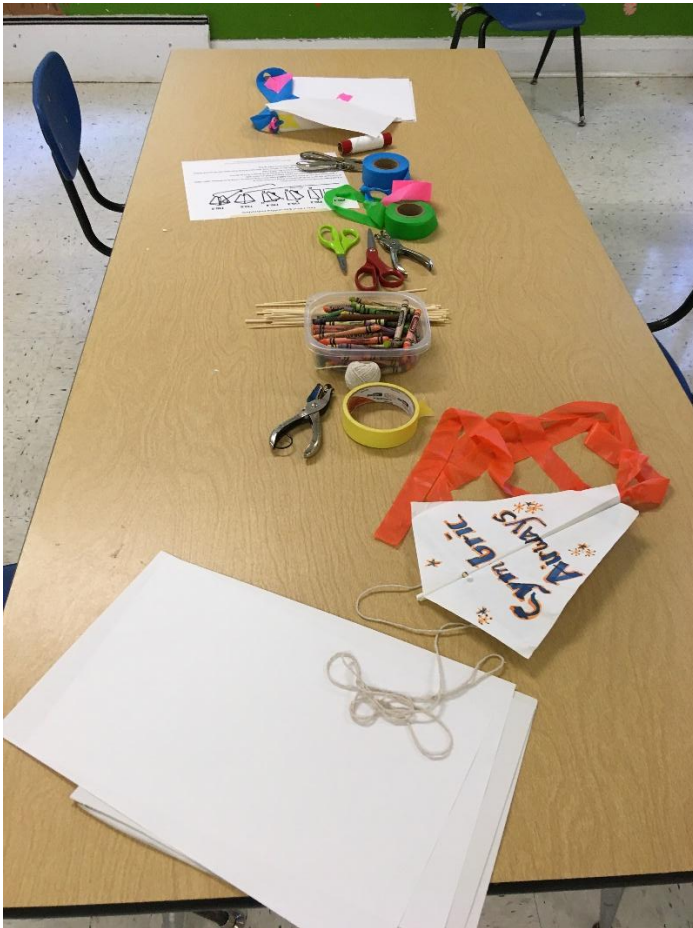
- Unfold paper, decorate as desired, and then re-fold it.
- Turn the paper over, and fold the "spine" down.
- Draw a mental line (or a real one) between C and D. Tape the spine there, then punch a hole, as close to the fold as possible.
- Slide a skewer through the hole from C to D. Tape it down.



- Place a piece of tape on the spine an inch down from the skewer. Punch hole there. (The tape reinforces the hole.) Tie a string through that hole.
- Tape the base of the spine together. Punch hole at base, add ribbon tail.
- Fly your kite!! Hold the end of the string. RUN and it will fly behind you.



paper, streamers, skewer, string, tape, hole punch, strong scissors



Build a Straw Glider

1. Small Ring: Take one strip of paper, curl it into a ring and tape it.
2. Big ring. Tape two pieces of paper together to make a longer strip, then curl it into a ring and tape it.
3. Tape the straw to the inside of the circles. Small circle at one end, large at the other.
4. Hold glider in the middle with the rings up. Throw like a paper airplane.

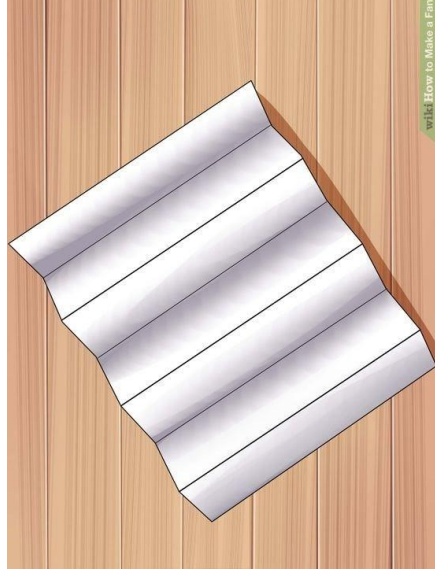


straw gliders in FIL– supplies – strips of cardstock or index cards, tape, straws, markers to decorate



Zoomers. For DSL: keep out the same materials and the same instructions but also make two sample Zoomers – one with 3 straws taped to the inside of the circles and one with four straws taped to the outside. Children can decide what they want to make with the available materials.

Fold a paper fan!



Paper. Tape.

One sample of just the folded paper, not yet taped. Another completed sample.

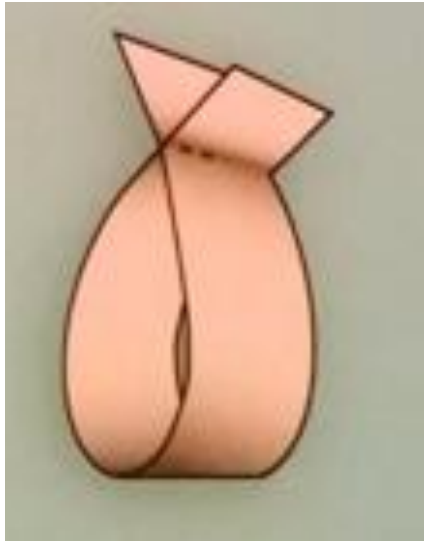
Lab Notebook. Name_____

Topic: Wind and Flight

If you could build a new way for human beings to fly, what would it be? What materials would you use to build it? How would it work? Draw a picture or write about it. Remember to think about how heavy it is, and how it is shaped.

Make a Paper Flyer – Choose ONE to Try

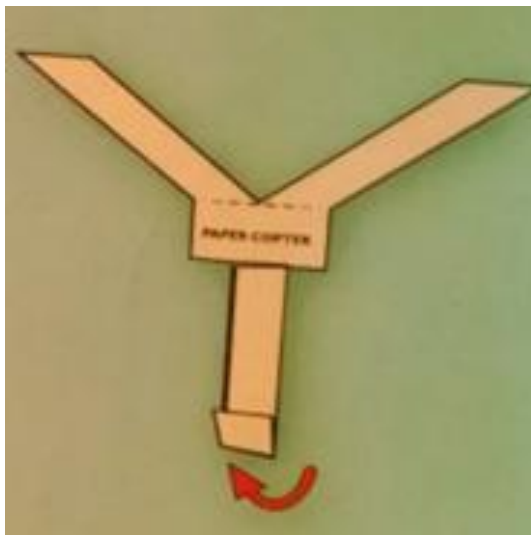
Easiest



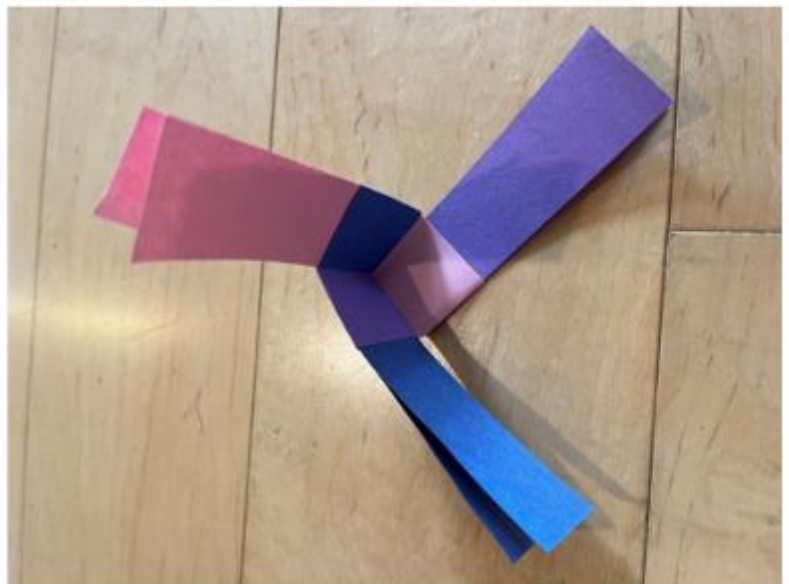
Medium



Harder

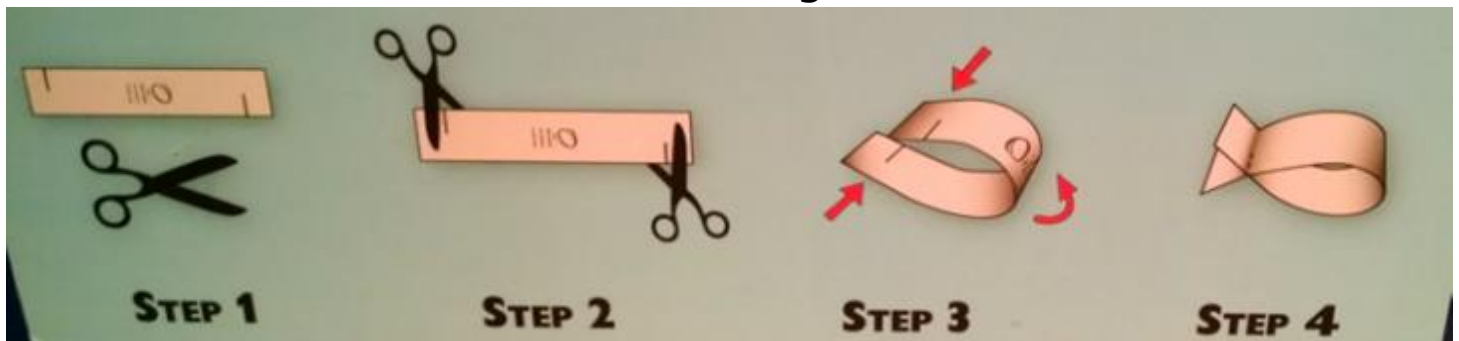


Hardest

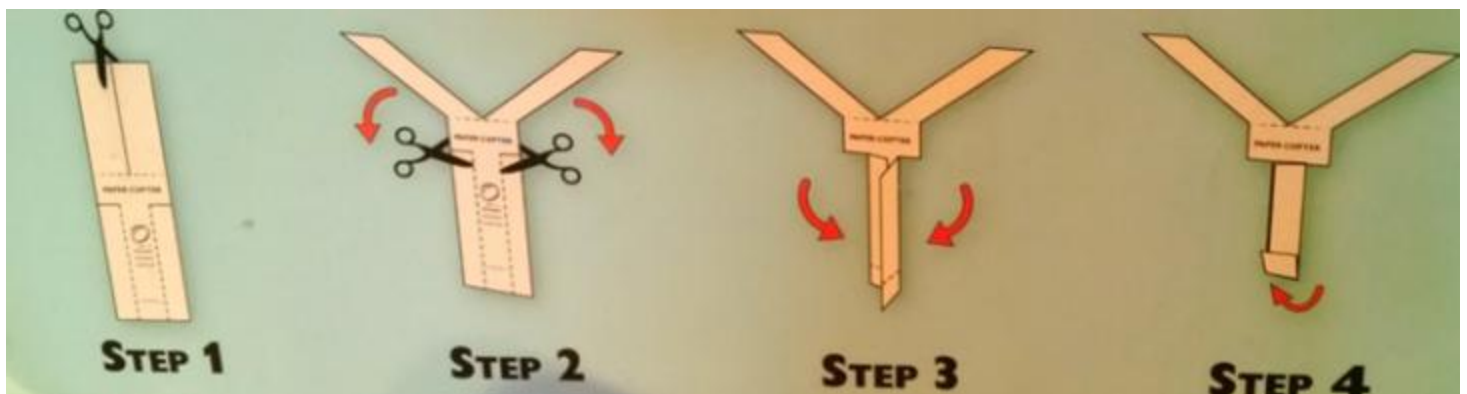


Build a Wind Tube Flyer

The Ring



The Helicopter



WHIRLING FLYER



- ▶ Cut slots along the wide edge of a cone.
- ▶ Fold the tabs down to make triangular wings around the edge.
- ▶ Test your design in the chamber. Think about how you might tweak it to change how it performs.



FLOATING FLYER



- ▶ Cut a cone into a long spiral.
- ▶ Stretch the coil like a spring.
- ▶ Test your design in the chamber. What other designs could you try?



Maple Seed Flyer

1. Take a strip of paper. Add glue to each end.
2. Fold it and stick the two ends together.
3. Now hold it up and add glue to the inside of the loop, halfway round.
4. Push that glue down into the "V" of the ends. Pinch together.
5. Spread the wings.
6. Let it fly! (Hold it so it is lying on its side when you let go.)



Make a Paper Spinner

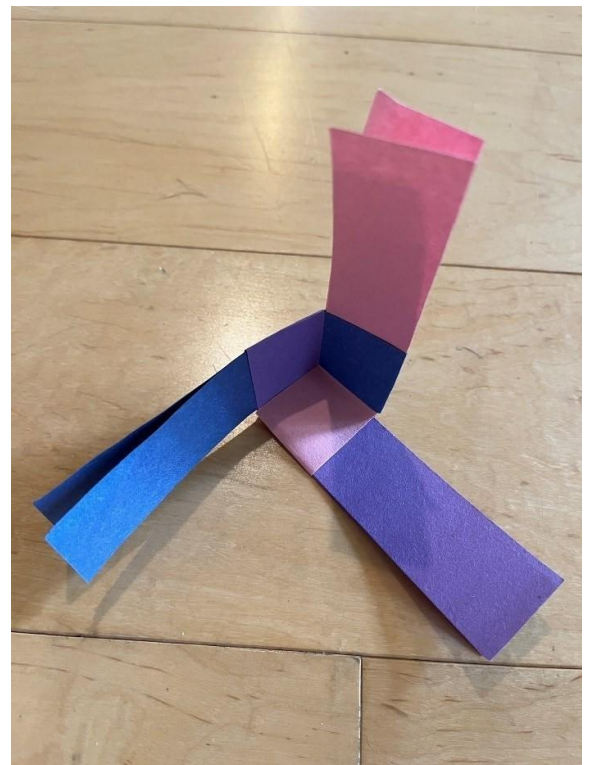
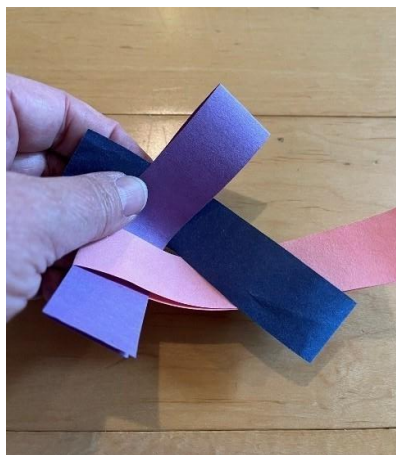
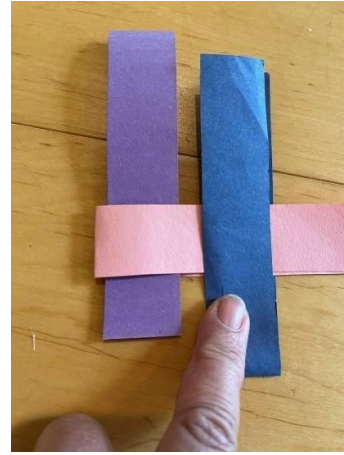
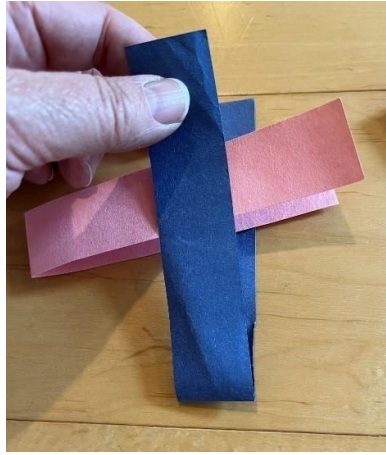
Cut three long strips of paper. Fold each in half.

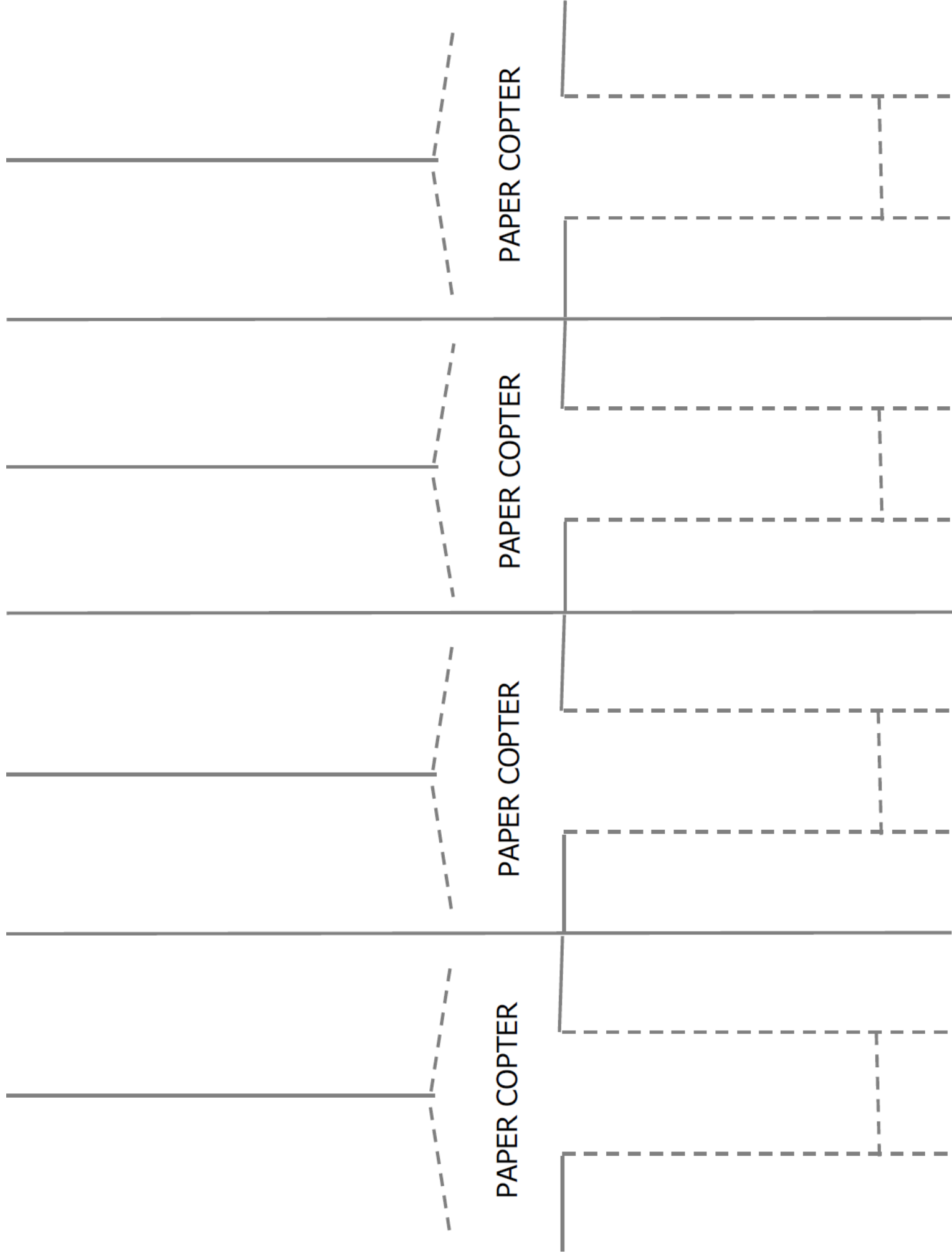
Wrap B around the outside of A, loose ends to the top.

Tuck C inside of A, loose ends to the bottom.

Tuck the loose ends of B inside the folded end of C.

Now, tighten this up... Tug on A, tug on B, tug on C, and so on, until all the angles are tight. You probably need a grown-up to help with this step.





Make a Flying Saucer

Decorate your plate.

Cut your plate – cut along each line –
do NOT cut all the way to the edge of the plate.



Bend the triangles, so every other triangle goes up
and the other ones go down.



Throw it like a frisbee



Supplies:

Paper plates with cutting lines marked.

Use long hole punch to make a starter hole in the center where they can insert their scissors to start cutting

Markers, scissors

Make a Spinner

(Traditionally made from bamboo – in China they're called 竹蜻蜓 zhuqingting, or 竹蜻蛉 taketombo in Japan)

Decorate your spinner with markers. Then cut it out



Poke / punch a small hole in the center. Insert skewer.

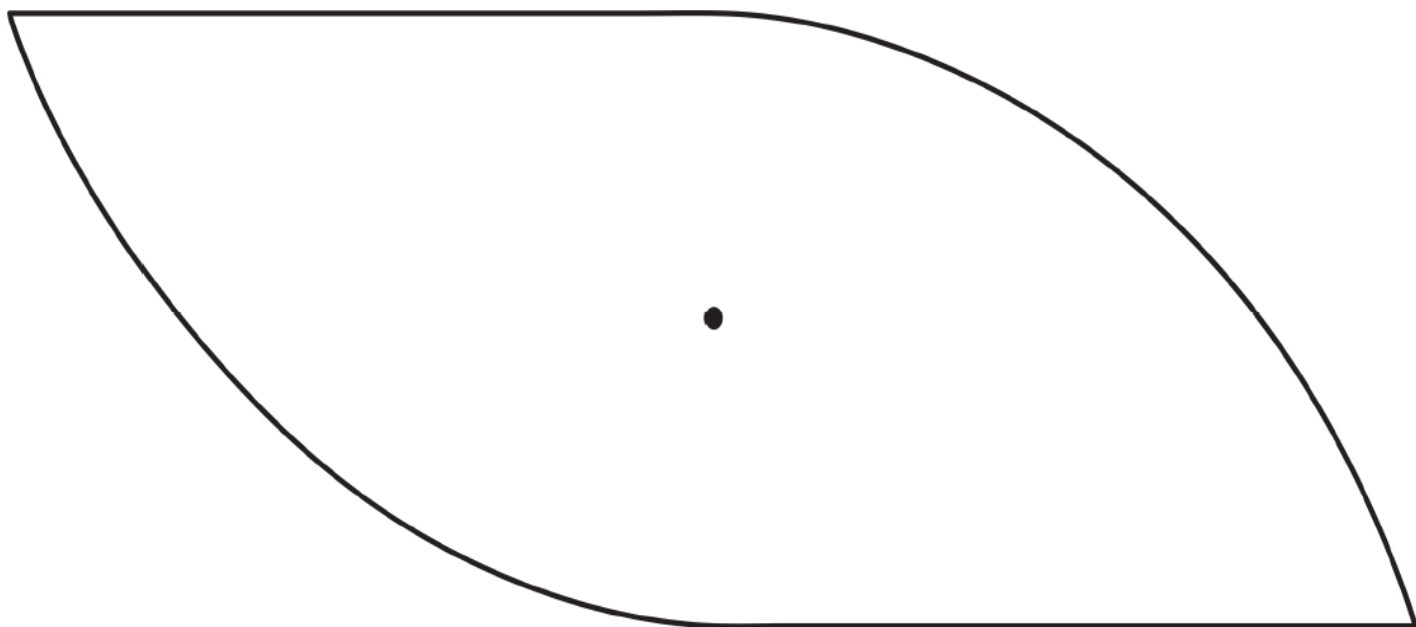
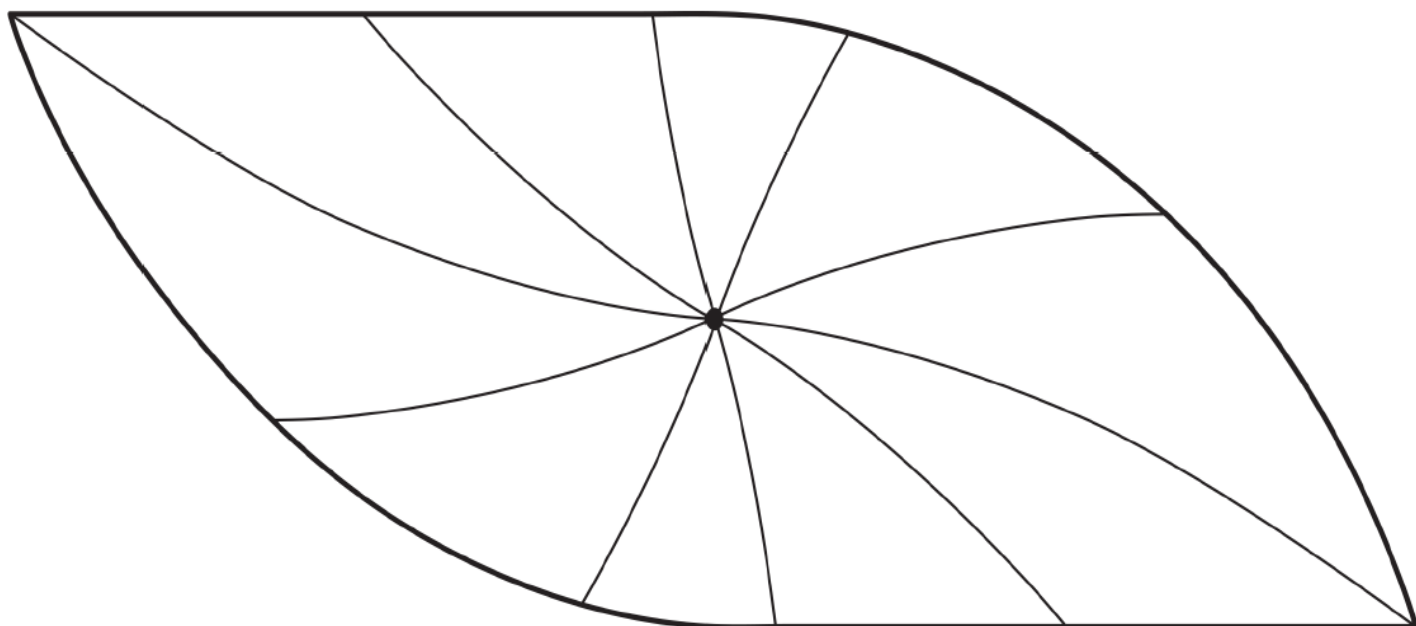
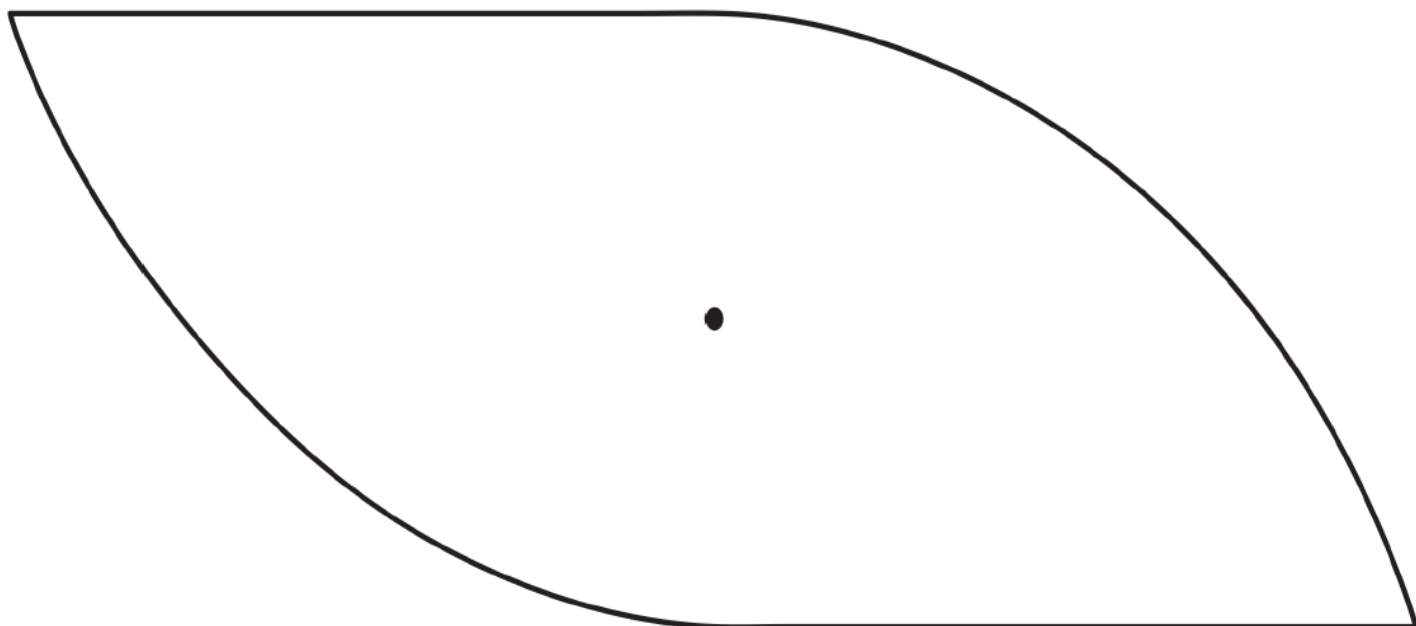
Ask adult to glue it in place with hot glue gun.

Test it: hold the skewer between your palms and rub your hands together to make it twirl around. Then as it's spinning fast, lift your arms up and away from your body and let go.



Supplies:

- Templates on cardstock,
- Markers – for decorating
- Scissors
- Maybe... long hole punch (if it will make a small enough hole) or maybe push pin and foam to push into?)
- Bamboo skewers – lightest ones!
- Hot glue or PVA (white) glue – for the skewer.



Use the balloon pump to blow air at the feathers and ribbons. Do they move in the wind?

Write your name on a straw.
Use the straw to blow wind at the sailboat. Can you make it move?

When you're done, put your straw in your cubby in case you want to use it again.

If you could see the wind, what
would it look like?

Paint that!

Use the balloon pumps to blow
balls around the tracks.

Set up two tracks next to each
other, and have a ball race!

The wind is blowing high.

The wind is blowing low.

The wind is blowing fast-fast-fast.

The wind is blowing slow.

The wind is blowing high.

The wind is blowing low.

The wind is blowing round and round.

Everywhere I go.

Build a Sail Boat

1. Mount sail on mast by sliding popsicle stick through the slots on the sail.
2. Rubber band together two corks (cork A and cork B)*
3. Rubber band together cork B and C.
4. Put mast between cork B and C, facing toward A.
5. Rubber band all three corks together.



Make a Paper Bag Kite

1. Decorate your bag
2. Add a piece of tape to each corner of the open end of the bag, then punch a hole there.
3. Tie one string on each hole. Gather the four loose ends together and tie into a knot. 4. Tie a 5th string to the bundle of four strings. This is the one you'll hold when you fly kite
4. Tape streamers to the bottom of the bag.
5. Later, when you use this outside, you hold onto the string and run to make it fly.

