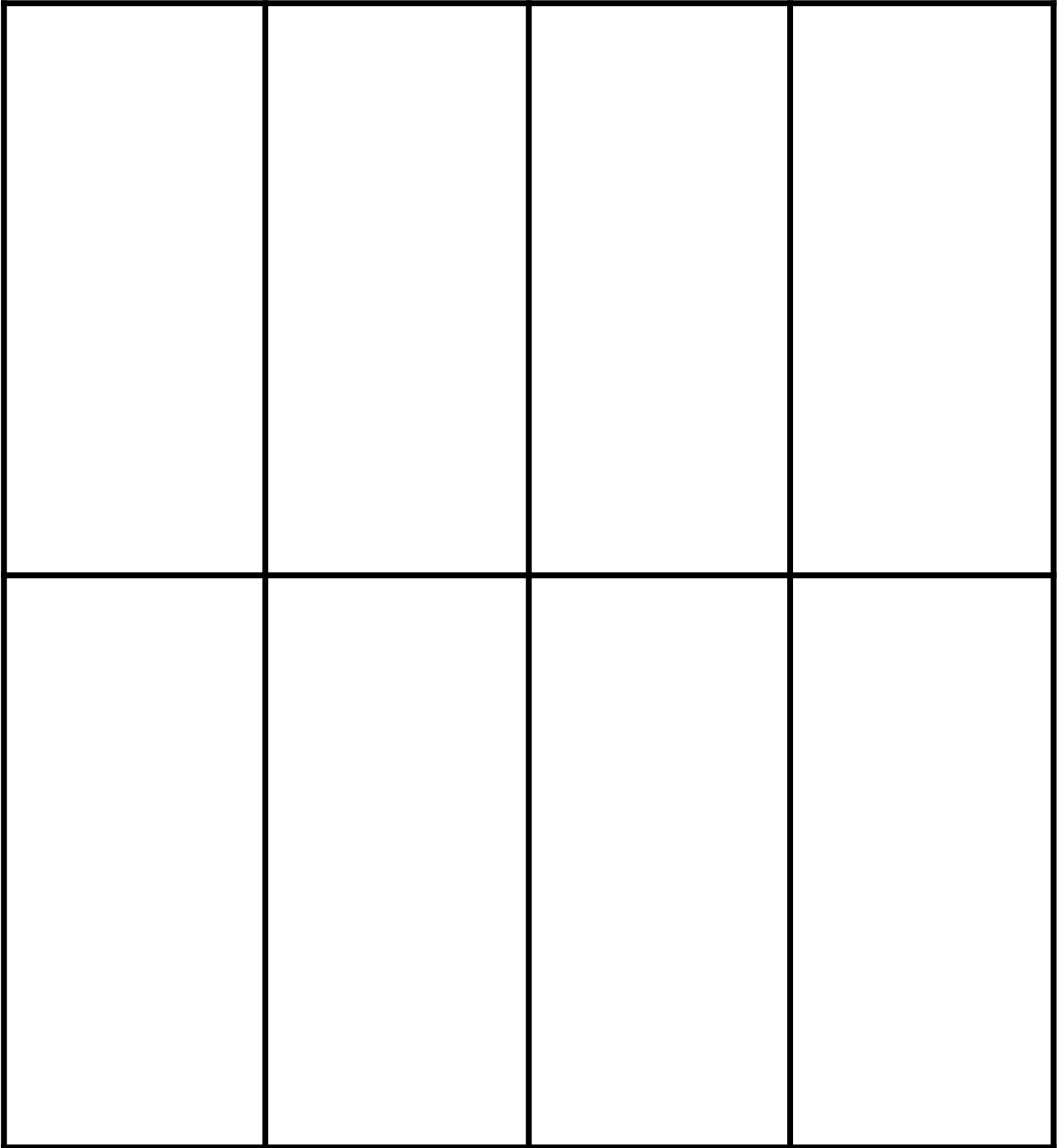


Bent Rectangle Template:



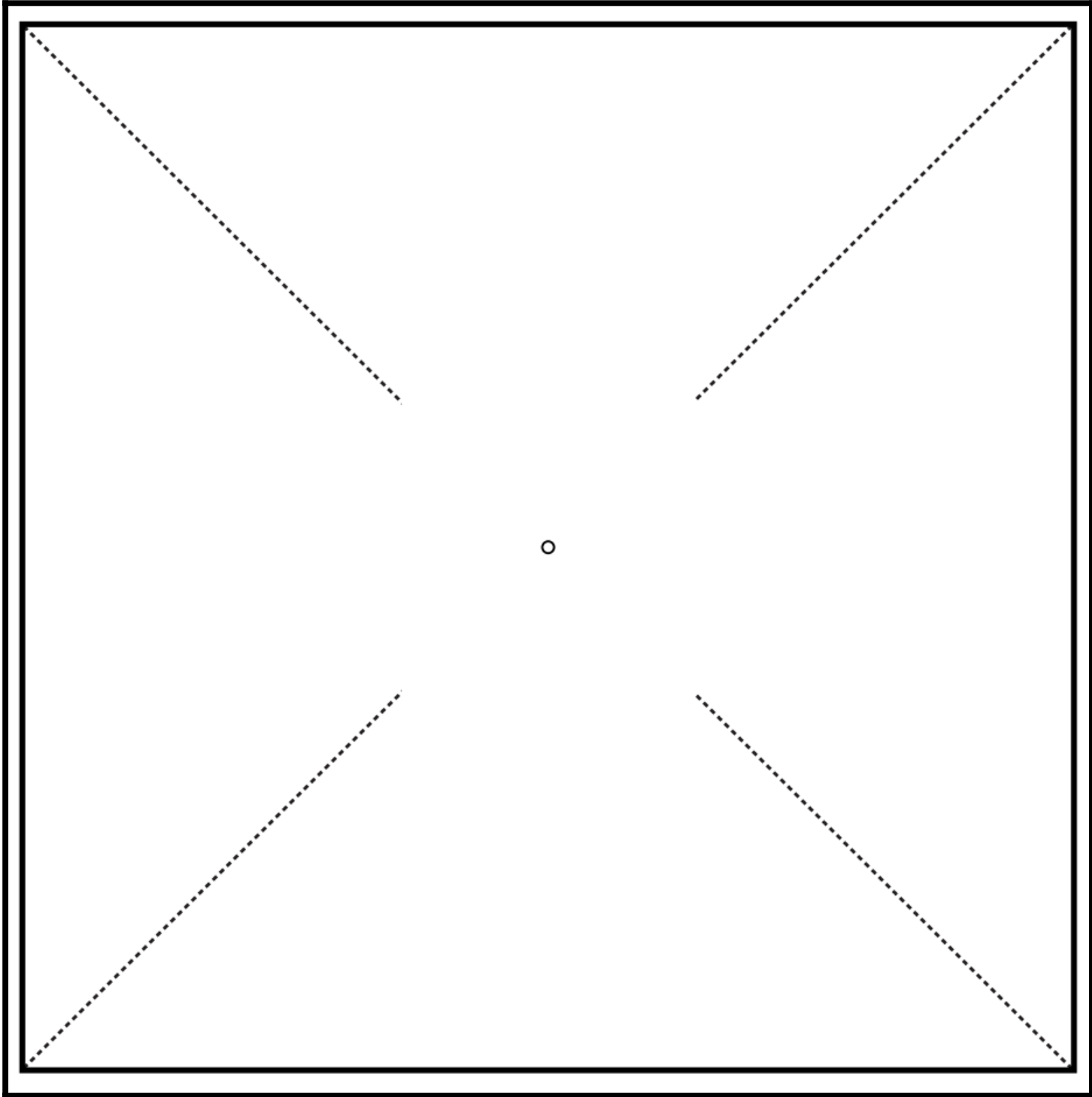
Protocol for Bent Rectangle Blades:

- Print and cut out the template provided.
- Double layer the rectangles, glueing them together. Fold each strip lengthwise down the center, then open it back up again so that the paper forms a 'V'.
- Arrange the four folded strips as shown in the image below. Each paper strip represents one blade of a turbine
- Tape all the strips together in the middle where they join. Add tape to both sides, the front and the back.



Image Credit: Sangee Lohrer, Science Buddies / Science Buddies

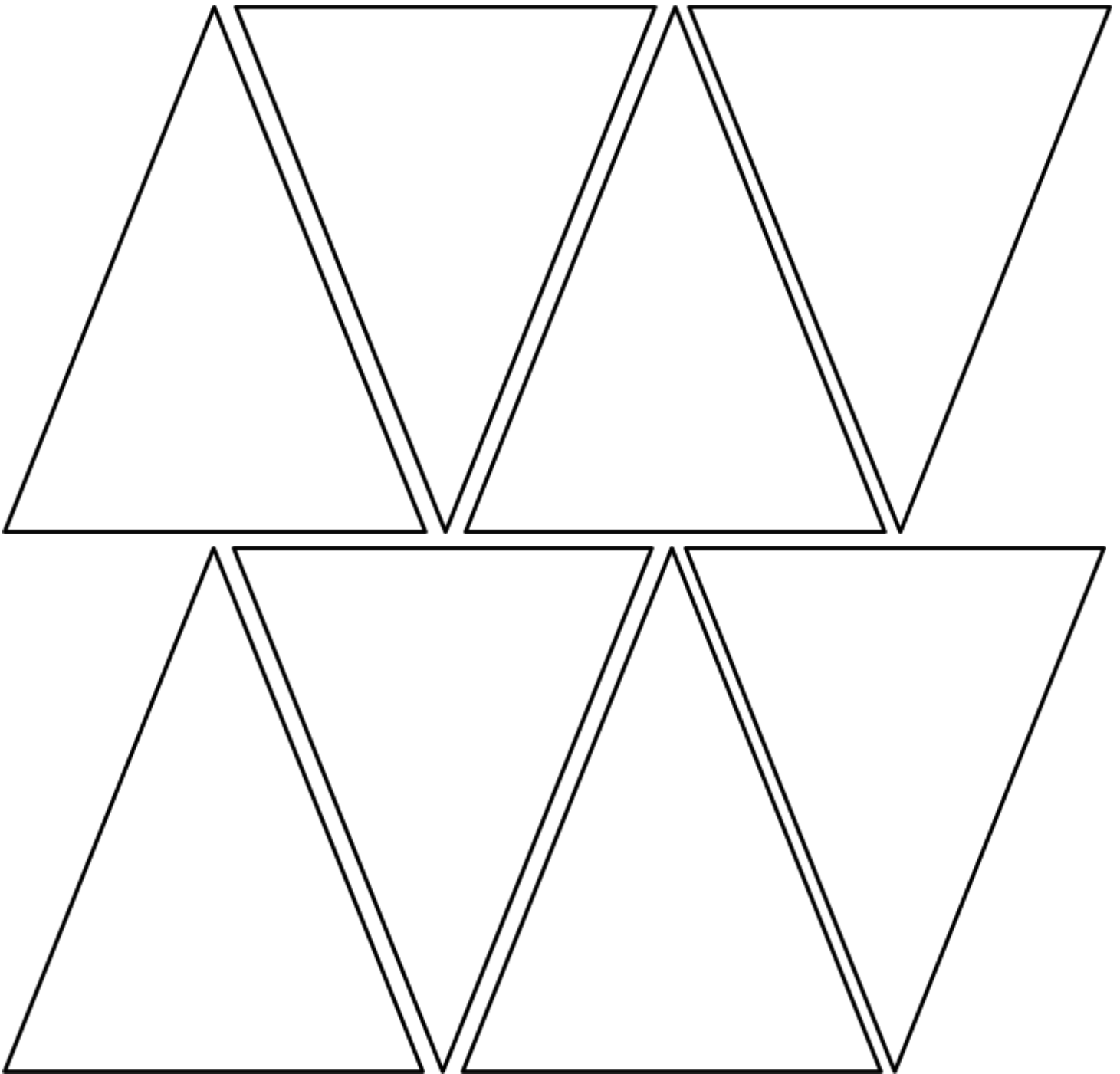
Pinwheel Template



Protocol for Pinwheel Blade:

- Print and cut out the template provided.
- Fold the square in half diagonally and make a crease. Open it up, and fold it diagonally again, this time in the opposite direction. Make a crease, then open the paper back out to the square.
- Use your scissors to cut from each corner along the diagonal fold, stopping 1.5 inches from the center. You should now have a square with 4 'wings' or 'petals'.
- Starting with the topmost petal, gently fold down the right corner of the petal and hold it in the center of the square. Try not to crease the paper. Repeat this with each remaining petal, holding each corner in place in the center with your hand.
- Once all 4 petals have one corner folded down to the center, hold them in place with a sticker or tape.

Bent Triangle Template



Protocol for Bent Triangle Blades:

- Print and cut out the triangles from the template provided. For each pair of triangles, place one triangle on top of another and line up all the edges, then glue those two triangles together. When you are finished you should have four triangles, each 4 inches tall with a 3-inch base.
- Fold each of the four triangles down the center from its apex to its right corner, and then open them back up again so that each piece of paper forms a 'V' shape.
- Spread the triangles out on the table so that they point in four different directions and meet at their apexes (tips). Then tape all the triangles together in the middle where their apexes meet. Add tape to both sides, the front and the back.

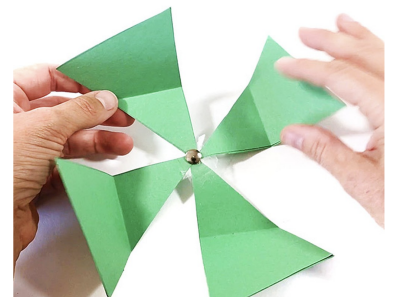
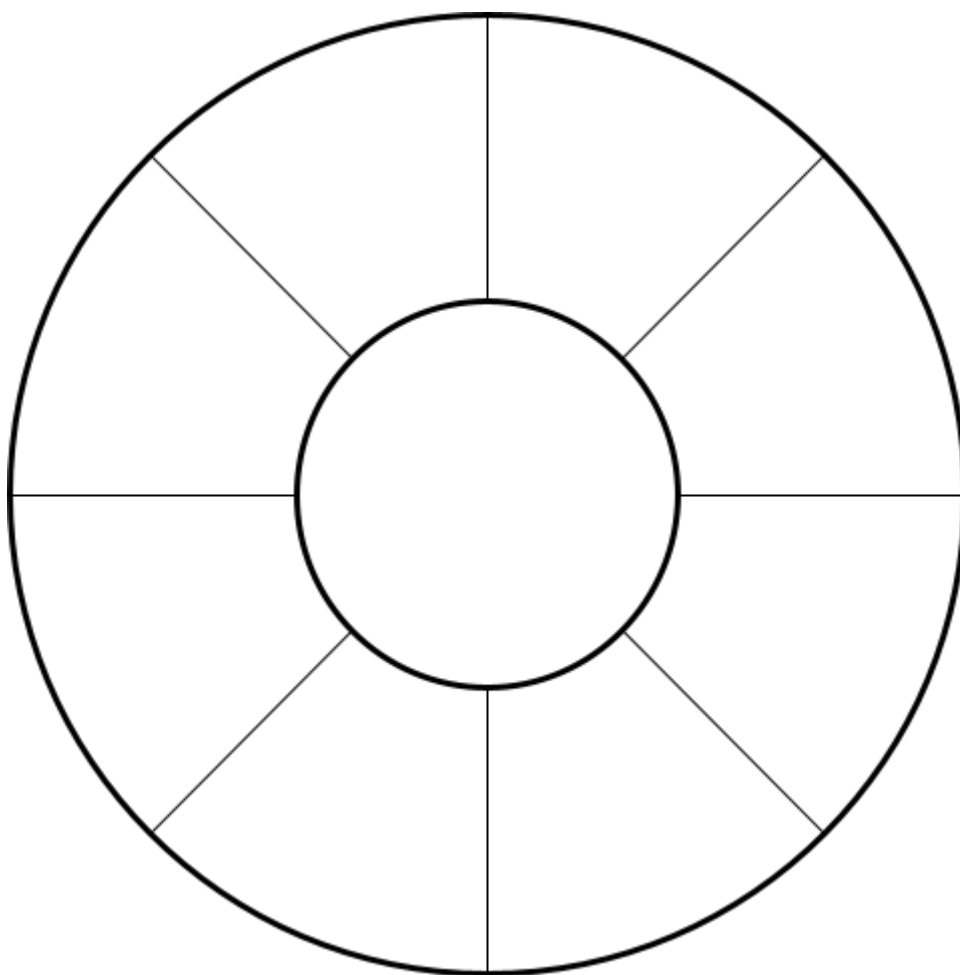


Image Credit: Svenja Lohner, Science Buddies / Science Buddies

"8" Blade Template



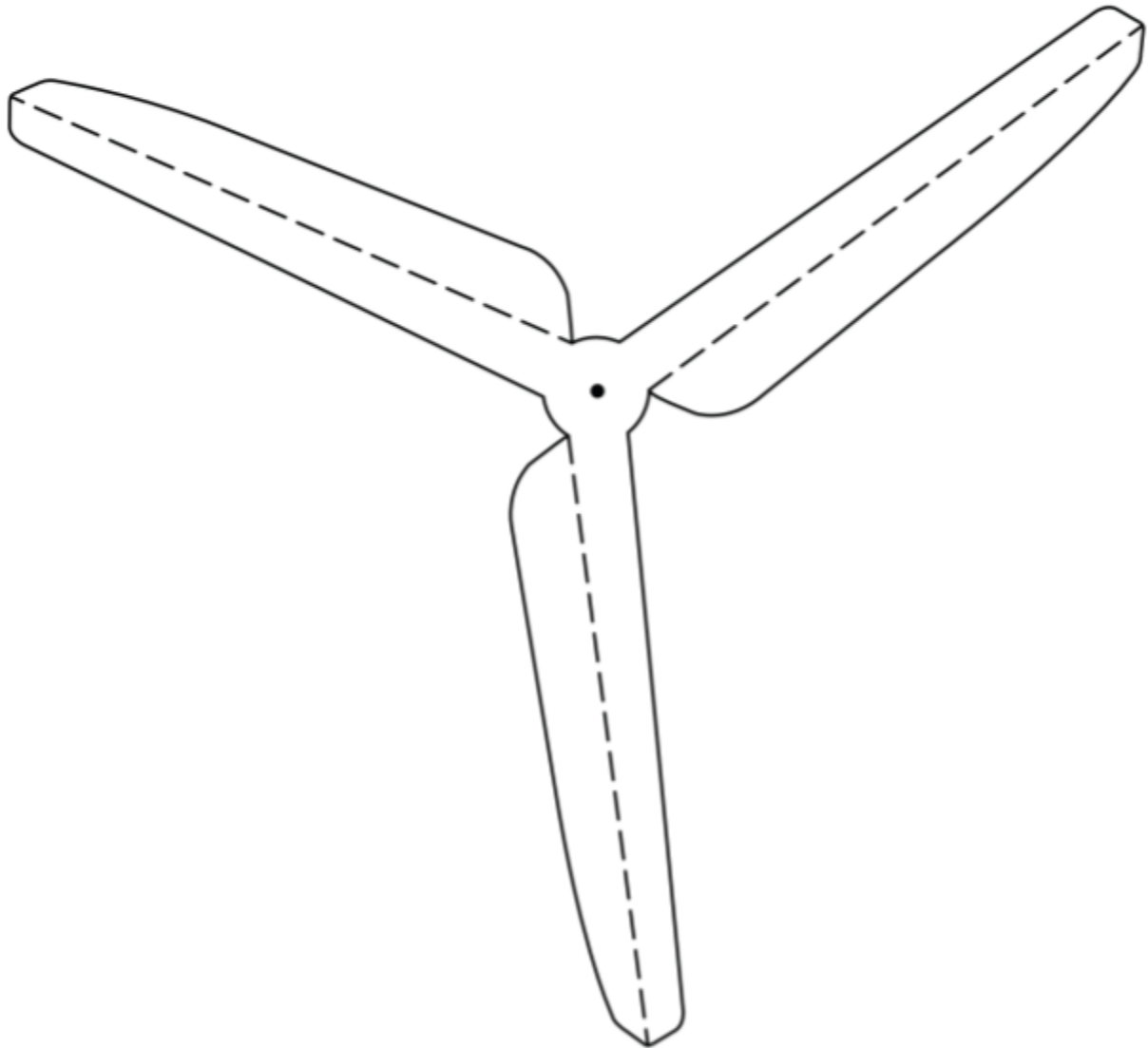
Protocol for "8" Blade:

- Print out the template provided.
- Use scissors to cut out the larger circle.
- Cut notches along the 8 lines you made, from the outside of the circle to the inner circle. Bend the blades up, all in the same direction.
- Hot glue craft sticks to the fan blades to reinforce them.

Protocol for Paper Cup Blade:

- Create the curved blades of your turbine by cutting the sides of a small paper cup into four equal parts and then cutting out the bottom.
- Use hot glue to attach two craft sticks together so they are perpendicular. Once the glue sets, make a small hole in the center of the sticks that is the same diameter as the motor shaft.
- Use hot glue to attach the edge of a blade to each end of the craft sticks. Set them off center so that they catch the wind.
- Attach the LED to the back of the motor.
- Hot glue the remaining two craft sticks on either side of the larger cup. Glue the other ends to either side of the motor.

“3” Blades



Protocol for “3” Blades:

- Print the template, and cut out the blade
- Bend the blades slightly to create a tilt angle
- Reinforce the blades with craft sticks