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Make a Wind Turbine Activity

Ready to get started with this activity? To keep track of your progress, check off the instructions for each step below as they are completed.

The turbine has blades that move counterclockwise when the wind blows straight at them. The blades cup the air, capturing it and pushing the blades in the counterclockwise direction.

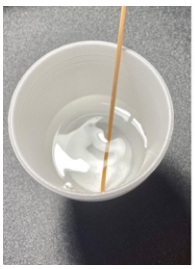
Consider this: Humans have harnessed the power in the wind for thousands of years. They have used wind energy to crush grain, pump water and now we use it to make electricity. Wind turbines are much more complex than the traditional windmill – some have over 8,000 different components. Thankfully this activity only needs 9 items. Most of the components for the wind turbines in the United States are manufactured here. There are over 500 wind related manufacturing facilities across 43 states. You can add to the manufacturing numbers by making a wind turbine of your own.

☐ 1. Gather Your Materials

- Wood skewer
- Thumbtack
- Glue
- A small bead
- Scissors
- Colorful cardstock
- Ruler
- Scissors
- Pen

☐ 2. Cutting the Fold

- Stick the dull end of the skewer into a glass of water. This will make it easier to push the thumbtack into the skewer when attaching the Turbine blades. This also helps prevent splintering.
- Cut the paper into a square, all four sides the same length. With rectangle paper just fold one corner over to make the square and cut off the excess.
- Find the center of the square and make a dot. Finding the center is easy by folding opposite corners of the square, making an X when unfolded.



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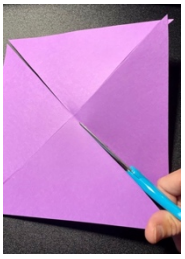
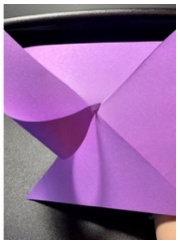
3. Cutting the Corners

- Starting at one corner of the square, cut a straight line up to the center hole – do not cut all the way to the hole, leave about ¼ inch space.
- Repeat with three remaining corners.



4. Thumbtack and Bend

- Take one triangle of the turbine blades and push the thumbtack through the center hole from the back.
- Bend the next triangle over and push the thumbtack through the hold on that spoke. Continue with the r emaining triangles.

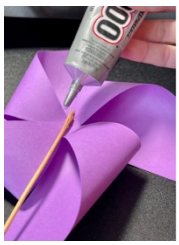


5. Bend and Skewer

- Slide the small bead onto the tack.
- Push the thumbtack into the wet end of the skewer up to the bead.

6. Glue and Spin

- Cover the bead with glue. The bead helps space the turbine blades away from the skewer, which allows the blades to spin freely.



7. Things to Think About

- Can the basic design be changed to make the blades spin faster?
- What are the limitations of a wind turbine?
- What are the advantages of a wind turbine?