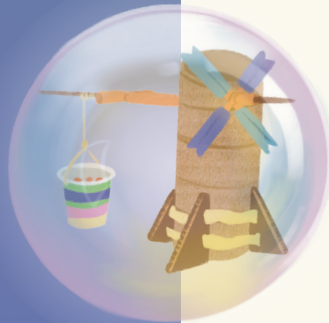


BUILD YOUR OWN WIND MACHINE

What you need:

- Cardboard tubes (paper towel or toilet roll tubes will work great)
- Straws
- Skewers
- String
- Scissors
- Cardstock, cardboard or construction paper
- Tape
- Small paper cups
- Paperclip
- Weights for testing (e.g. marbles)
- Fan for testing (optional)



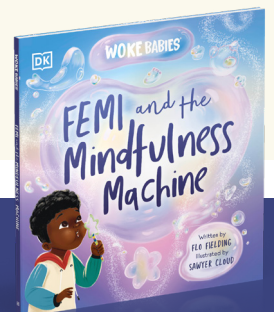
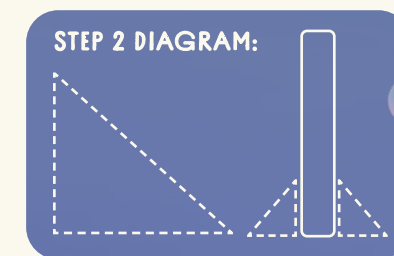
Step 1: Start building by creating the tower of your windmill. You want it to be about 12 inches tall so use a paper towel cardboard tube or make one out of stiff paper.

Step 2: Secure the base of your tower by taping four right angle triangles made from card to the bottom of your tower (see diagram below)

Step 3: Now create your turbine. Start by cutting the paper straw in half so you have two equally sized straws. Pierce the skewer through each of the straws to create a cross symbol.

Step 4: Next, using stiff paper, cut out four rectangles of equal size to create the blades for the turbine. Fold each of these in half horizontally.

Step 5: Open the folded rectangle paper and tape the inside of each blade to the cross on the skewer.



Step 6: Now to attach the turbine to the tower. Using scissors, insert a hole through the top of the tower. Always ask a grown-up for help when using scissors.

Step 7: Cut another straw in half and insert one half of the straw through the hole you've just created at the top of the tower. Insert the turbine skewer.

Step 8: Pierce the remaining half of the straw through the end of the skewer at a vertical angle to hold the turbine in place.

Step 9: Next, pierce a hole through the top of the small paper cup and thread a short piece of string through, knotting each end to form a handle. Attach a paperclip to the centre of the string.



Step 10: Tie a long piece of string from the top end of the paperclip and connect it tightly to the turbine skewer.

Step 11: Add 4 to 5 marbles into the paper cup for weight.

Step 12: Now you're ready to test your windmill! Take a deep breath and blow on the turbines to get them spinning. You can always use a fan instead. When the turbine spins this should pull up the cup. You've just converted wind energy into mechanical energy!

