

TORNADO TUBES!



SIMPLE TORNADO

Supplies needed:

1. 2 plastic bottles
2. Odds and ends to put in the water for experimenting
3. A tornado tube connector *or* a drill and a hot glue gun.

STEPS

1. Fill $\frac{1}{2}$ to $\frac{3}{4}$ of a bottle with water
2. Attach both bottles to a pre-glued bottle-cap pair with a hole through the center. Or, attach both bottles to your tornado tube connector.
**To home-make a connector, drill a hole that is about half the diameter of your cap through both caps and hot glue your caps together, with the lips to attach facing opposite each other. You could also have us make you one with our [3D Printer!](#)
3. MAKE SURE BOTH SIDES ARE COMPLETELY SECURE!
4. HOLD YOUR CONTRAPTION OVER A LARGE BOWL!
5. Quickly flip it upside-down so that your full bottle is on top, and *swirl the water in a circular motion*. (THIS STEP IS A MUST!)
6. Watch your tornado go!

MAKE IT AN EXPERIMENT!

1. Test out different pre-glued bottle-cap pairs to see how the size of the hole in the center affects your tornado. Try changing the amount of water inside your bottle, too.

LET IT SNOW!

1. Cut open a diaper
2. Scoop out the polymer inside
3. Fill most of a 4-6 oz cup with water.
4. Then sprinkle in your snow.
5. Patiently wait for 1-2 minutes for your snow to grow. (Stir as needed.)

A TRUE EXPERIMENT NEEDS CHANGING VARIABLES!...

...What happens when you change the amount of water?



RAIN IN A JAR!



THE BASIC VERSION

1. Fill a vase/jar most of the way full with water
2. Put a cloud of shaving cream on top of your water/around the rim of your jar
3. Fill a Pipette with food coloring and drop it in
4. Watch your cloud get heavy with rain, and watch the rain fall!

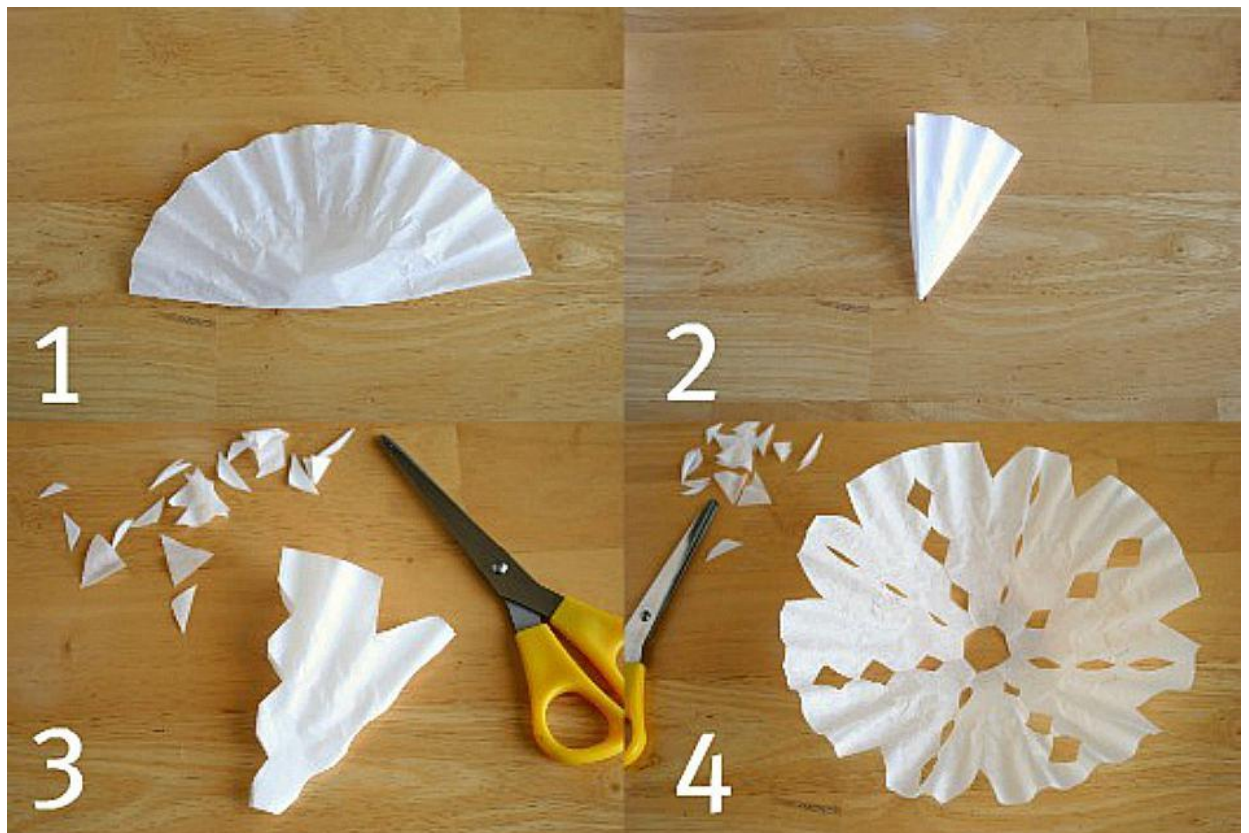
MAKE IT AN EXPERIMENT!

1. What happens if you use more shaving cream in your second cloud?
2. What if you add a little water to your second pipette of food coloring?
3. Try this with (quinine-based) tonic water and a Blacklight. What happens to the quinine in the tonic water?
**any other experiments you can do with this new knowledge? If you'd like to share, email Miss Inga. ICullen@ConcordNH.gov.
4. Try mixing new food colors at home for a beautiful Technicolor cloud!

COFFEE FILTER SNOWFLAKES

(Instructions)

1. Fold your coffee filter in half
2. Fold it in half again.
3. Fold it in half again! (That was the last time – I promise)
4. Your snowflake should look like a small/skinny piece of pizza now.
5. Cut little holes, lines, and shapes all around the straight edges of your coffee filter, but **DON'T LET HOLES TOUCH!**
6. If this was too easy, and you want a six-pointed snowflake like you find in nature, try the model on the next page.



FOR A SIX-POINTED SNOWFLAKE

1. Fold your coffee filter in half
2. Fold it in half again.
3. Fold it in *thirds!*
***To do this, draw lines to make 3 slices of pizza, all the same size, from your bigger slice of pie. Then fold the side furthest to the right over your middle. Then fold the remaining left side over the middle.*
4. Your snowflake should look like a small/skinny piece of pizza now.
5. There should be three corners now. Cut off the top right-hand corner to make it look like a kite with three sides of different lengths.
6. Cut little holes, lines, and shapes all around the straight edges of your coffee filter, but DON'T LET HOLES TOUCH!

