

Make a Tornado!!

[Home](#)

[Thunderclouds](#) [Lightning](#)

[Hearing thunder](#) [Tornadoes](#)

"Tornadoes are born out of large (supercell) thunderstorms that often grow to over 40,000 feet. A column of warm humid air will begin to rise very quickly. Find out what else is needed to make a tornado."

[Make a tornado!](#)

[Twister in a jar!](#)

Activity #1: Make a tornado

Stuff you need

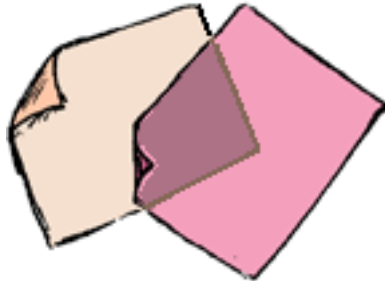
Piece of wood, 10 x 12 inches



Glue gun



Vinyl sheets (.010" thickness) 9 x 10 inches (2 of them)



Small hand-held fan



Deli dish or cup



[Teacher Tips](#)

[Glossary:](#)

Funnel cloud:

A rotating column of air extending from a cloud but not reaching the ground.

[<return>](#)

Vortex:

Whirling motion or mass.

[<return>](#)

Wind shear:

Any sudden change in wind speed or direction.

[<return>](#)

Clear plastic plant saucer (7" across). Cut out a hole, 2" across, in the middle of it



Water

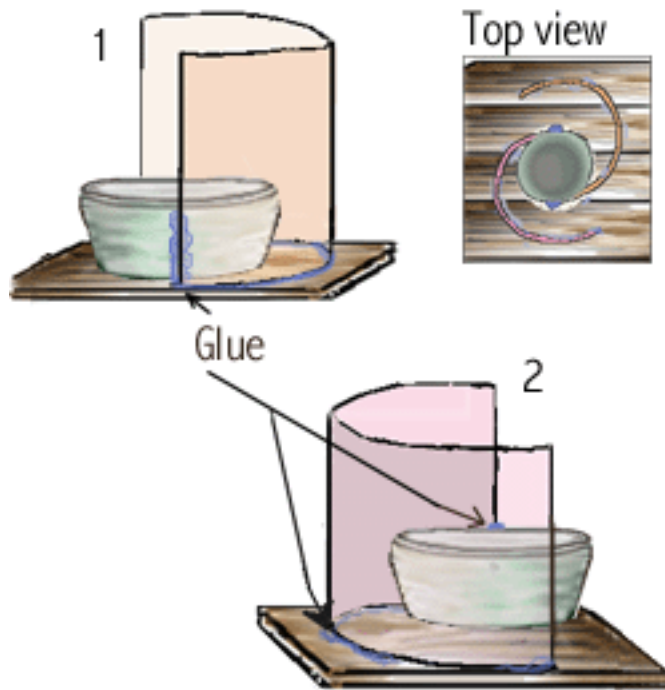


Dry ice



Make it happen

1. Glue the cup in the center of the piece of wood.
2. Glue one of the vinyl sheets onto one side of the cup. Then glue the rest of the sheet in a half circle around but not touching the cup.
3. Glue the second sheet to the opposite side of the cup. Glue the rest of the sheet in a half circle. The two sheets must overlap, but not touch.



4. Pour about half a cup of water in the cup.

5. Using gloves, place a few small pieces of dry ice in the cup.

6. Quickly place the saucer upside down on the top of the two pieces of vinyl.

7. Turn on the fan and place it in the hole facing up to draw the air up.

8. Watch the tornado spin!

[Here are some students who did it too.](#) (Requires an mpeg player like Microsoft ActiveMovie)

Did you make the same mistake they did?



Think about it

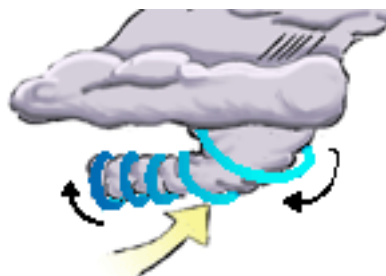


We've discussed updrafts, but how would the column of air begin to rotate without a huge fan placed on top of the thunderhead?

What's happenin'?



This is not completely understood by scientists, but one way the rotation appears to happen is when winds at two different altitudes blow at two different speeds creating [wind shear](#). For example, a wind at 1000 feet above the surface might blow at 5mph and a wind at 5000 feet might blow at 25mph. This causes a horizontal rotating column.



If this column gets caught in a supercell updraft, the updraft tightens the spin and it speeds up, much like a skater's spin speeds up when the skater pulls in their arms. A [funnel cloud](#) is created.



The rain and hail in the thunderstorm cause the funnel to touch down creating a tornado.

Activity #2: Twister in a jar

Stuff you need

8 oz. jar with lid

Water

Vinegar

Clear liquid dish soap

Glitter

Make it happen

1. Fill the jar 3/4 full of water.
 2. Put in one teaspoon of vinegar and one teaspoon of dish soap.
 3. Sprinkle in a small amount of glitter.
 4. Close the lid and twist the jar to see a tornado like a [vortex](#) form.
-
-

Look here for more information:

[USA Today Weather Page - A Close-up View of Tornadoes](#)