

SCIENCE EXPERIMENT

TORNADO IN A BOTTLE

Explore!
Discover!
Learn!

OBSERVE
PREDICT
EXPERIMENT
LEARN

What
will YOU
discover?

Name : _____

Class : _____

Date : _____

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TORNADO IN A BOTTLE!

A FUN SCIENCE EXPERIMENT

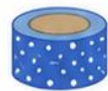
Create your very own tornado in a bottle!
Watch the water swirl and spin just like
a real tornado.



YOU WILL NEED:



2 clear
plastic bottles
(same size)



Strong tape
or duct tape



Water



Food coloring
(optional)

LET'S DO IT!

- 1 Fill one bottle about 3/4 full with water. Add a few drops of food coloring if you like.
- 2 Place the empty bottle upside down on top of the full bottle, so the necks are together.
- 3 Use strong tape to tightly secure the bottles together at the neck. Make sure there are no leaks!
- 4 Flip the bottles over carefully so the full bottle is on top.
- 5 Hold the bottles and swirl them in a circular motion.
- 6 Watch as a tornado forms in the water!



WHAT'S HAPPENING?

When you swirl the bottles, the water moves in a circle. This creates a vortex (a spinning funnel) just like a tornado!



SAFETY FIRST!

- Make sure the tape is tight so water doesn't leak.
- Do this experiment over a table or sink.



HAVE FUN EXPLORING
SCIENCE!





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PREDICTION SHEET



A prediction is a smart guess about what you think will happen in the experiment.

Think, Guess and Write!



- 1 What do you think will happen when we spin the bottle?



- 2 Do you think a tornado (vortex) will form inside the bottle? Why or why not?



- 3 What do you think will happen if we stop spinning the bottle?



- 4 What do you think is the purpose of the middle connector?





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SCIENCE EXPERIMENT

TORNADO IN A BOTTLE

Observe
Carefully and
Record!



OBSERVATION SHEET



Materials Used

- ✓ 2 Plastic Bottles
- ✓ Water
- ✓ Glitter (optional)
- ✓ Tape
- ✓ Middle Connector



What We Are Observing

We are observing how water moves inside the bottle and how a tornado (vortex) is formed.



★ Step-by-Step Observations

Step	What We Did	What We Observed	Draw What You Saw (Optional)
1 Filled the bottle with water. 			
2 Connected the two bottles using the connector. 			
3 Flipped the bottle. 			
4 Spun the top bottle in circles. 			
5 Watched the water settle down. 			

Additional Observations

Write any other interesting things you noticed.



Conclusion (What did we learn?)

From your observations, what did you learn about the tornado in a bottle?



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★ SCIENCE EXPERIMENT ★

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RESULT SHEET



You have completed the experiment!
Now it's time to share what happened
and what you found out.



1 WHAT HAPPENED?

Describe what happened in the experiment.
Write your results.

2 DID YOUR PREDICTIONS COME TRUE?

Compare your predictions with the results.
Tick (✓) the correct option.

My Prediction	Result	
A tornado (vortex) will form inside the bottle.	Yes ☐	No ☐
The water will swirl when I spin the bottle.	Yes ☐	No ☐
The tornado will disappear when I stop spinning.	Yes ☐	No ☐

What was different from what you predicted?

3 CONCLUSION

What can you conclude from this experiment?

4 HOW DOES IT WORK?

Explain in your own words how the tornado (vortex) is formed inside the bottle.



5 WHAT DID YOU LEARN?

List the important things you learned from this experiment.

- ★

- ★

- ★

- ★

6 WHAT WOULD YOU IMPROVE?

What would you do differently next time?

7 REAL WORLD CONNECTION

Where in real life do you think this kind of vortex or tornado can be seen?
How is this experiment useful?



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★ SCIENCE EXPERIMENT ★

TORNADO

IN A BOTTLE

REFLECTION SHEET



Reflection helps us think about what we did, what we learned and how we can improve!

1. WHAT DID YOU ENJOY MOST?

What part of the experiment did you like the most? Why?



2. WHAT DID YOU LEARN?

What new things did you learn from this experiment?



3. WHAT WAS CHALLENGING?

What was difficult or tricky during the experiment?



4. WHAT WOULD YOU DO DIFFERENTLY NEXT TIME?

If you did this experiment again, what would you do differently?



5. HOW DO YOU FEEL ABOUT THE RESULTS?

Are you happy, surprised or curious about what happened? Why?



6. HOW DOES THIS CONNECT TO REAL LIFE?

Where in real life do you think tornadoes or vortices (swirling motion) are useful or important?



7. ANY OTHER THOUGHTS?

Write or draw anything else you want to share about this experiment.





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Great Job!