

LEARNING MATERIALS

Tornado in a Bottle

A tornado is a fast-rotating column of air. In this experiment, moving air from the bottom bottle to the top bottle allows the water to drain down, however, the combination of a rotational motion with the gravitational field will create a vortex, like a tornado. When you turn the bottles upside down and shake them, the water goes down, but because it is a closed system, the air moves upward. A combination of these movements will create a tornado inside a bottle.

Questions for testing comprehension:

(1) How does the tornado rotate if we do this experiment in southern hemisphere? Is it different or the same? Why?

Further reading and materials:

- (1) <https://en.wikipedia.org/wiki/Tornado>
- (2) <https://www.stevespanglerscience.com/lab/experiments/soda-bottle-tornado/>
- (3) <https://youtu.be/CNHcOg8WdLQ>