

# Tornado in a Bottle

Follow these simple steps to make your own mini tornado. Observe the vortex you will create!

## Supplies:

- Bottle with cap (plastic water or soda bottle)
- Dish washing liquid
- Water
- Glitter

## Instructions:

- Add water to the bottle until it is  $\frac{3}{4}$  full
- Add a few drops of dish washing liquid
- Add few pinches of glitter (this will make your tornado easier to see)
- Secure the cap tightly, check for leaks
- Turn the bottle upside down and hold it by the neck. Spin the bottle quickly in a circular motion for a few seconds, stop and look inside to see if you can see a mini tornado forming in the water
- Be patient, it might take a few attempts to see it working

## The science:

When you spin the bottle in a circular motion it creates a water vortex that looks like a tornado. The water is quickly spinning around the center of the vortex due to centripetal force. This is an inward force directing an object or fluid such as water towards the center of its circular path.

## Where can vortices be found in nature?

Tornadoes

Hurricanes

Waterspouts (a tornado that forms over water)