

# Rain in a Jar

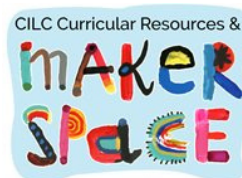


Grade Level: K-2

Subjects: **science**

Supplies: **blue food coloring gel, water, clear glass or plastic jars, shaving cream, plastic pipettes or spoons, small bowls for colored water, printable for each student (page 4).**

**Note:** This experiment can be done as a class or individually at stations. **Adult supervision recommended.**



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Adapted for the CILC Maker Space from the McAuliffe-Shepard Discovery Center  
<https://www.starhop.com/blog/2020/7/17/at-home-stem-activity-create-your-own-rain-cloud>

## THE SCIENCE OF RAIN IN A JAR

Clouds are made from floating water or ice crystals that form from rising warm air containing water vapor. The vapor, which is a gas form, condenses back into liquid water form under certain conditions.



In this photo, you can see rain falling from the bottom of a cloud.

Some clouds may look as light as a feather when you watch them peacefully float across the sky. However, clouds are actually pretty heavy. Scientists have calculated that the average cumulus cloud (the white fluffy clouds you see on a sunny day) weighs about 1.1 millions pounds (500,000 kg)! That is a lot of tiny water droplets!

Clouds float because they are lighter than the air below them. It's similar to why oil floats on top of water. Rain occurs when the warm air below a cloud cools off so much that it can no longer support the weight of the cloud.



### SET UP FOR THE EXPERIMENT

Add a few drops of food coloring gel into a small bowl. Add a little bit of water to dilute it, but not too much to keep the colors vibrant. Add a pipette into each bowl of food coloring.

Fill jars about 3/4 full of water.

Add shaving cream on top of each.

Now it's time to make some predictions.



## **PREDICTIONS BEFORE TESTING**

Prediction, testing, and observation are fundamental to scientific thinking. Ask students to consider the experiment they are about to do and to write their predictions on the top part of the "predictions and observations" printable on page 4.

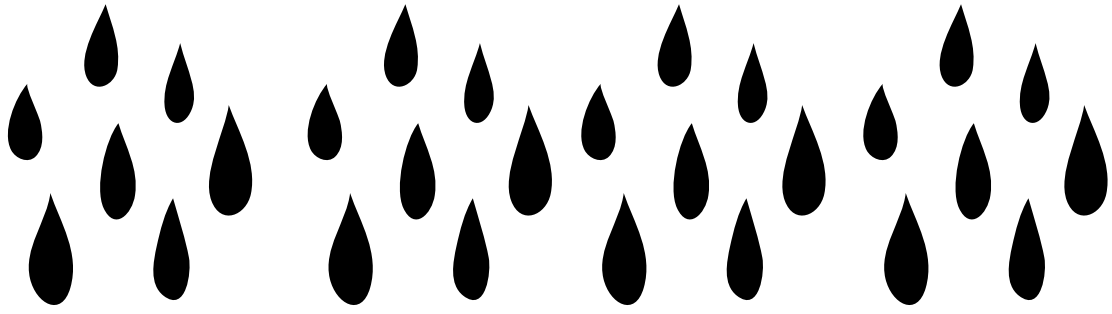


## **CONDUCTING THE EXPERIMENT**

Begin slowly add the food coloring over the shaving cream using the pipettes/droppers or a measuring spoon.

Have students record on their "predictions and observations" sheet the number of drops/spoonfuls of colored water you or they added and the results their observed.





## Rain in a Jar

What I think will happen.



What I observed..

