Rain Cloud in a Jar Experiment

Supplies Needed:

- A large jar (I used a plastic one like this)
- Shaving cream (not a gel version)
- Gel Food colouring or washable watercolours
- Pipettes or droppers

Setting Up the Experiment:

1 .In a small cup, mix the food colouring with some water.

2. Fill the large jar with water until it is about 3/4 full.

3. Place the jar and the cups of coloured water on the table. Place a pipette in each cup of coloured water.

4. Right before your child is ready to do the experiment, spray shaving cream in the large water-filled jar until it sits just above the top of the jar.

5. Pick up some coloured water with a pipette and squirt it on top of the shaving cream cloud. Repeat this step one or two more times, but pay close attention to what is happening below the cloud! The coloured water will begin to seep down through the shaving cream and into the water below. Just like rain!

Key Word(s): Water Cycle, Condenses/Condensation (water vapour condenses to form liquid water)

How it Works:

The shaving cream represents the clouds and the water represents the air. The coloured water represents rain.

As the coloured water saturates the “cloud”, it gets heavy and eventually is so heavy that it can no longer hold the water. It “rains” down into the jar through the “air” in the same way that real rain falls through the air.

In real clouds water vapour condenses as it cools until drops form that are heavy enough to fall as rain.

CfE Links: Investigative & Inquiry Skills and SCN1-05a/2-05a

On-line Links:

https://www.metoffice.gov.uk/learning/weather-for-kids/clouds gives you lots of information about clouds - the different types/how they form.

https://littlebinsforlittlehands.com/chemistry-activities-experiments-kids/ has more chemistry experiments you can try at home.

The Royal Institution ExpeRimental (http://www.rigb.org/families/experimental/about) has lots of science videos to help you bring science home with simple and inexpensive experiments.

The Dad Lab on YouTube (https://www.youtube.com/channel/UCc_-hy0u9-oKlNdMKHBudcQ) also has lots of simple experiments to try at home with videos showing you how to do them.

https://www.britishscienceweek.org/ has activity packs and citizen science projects with new ones each year for the annual British Science week in March.