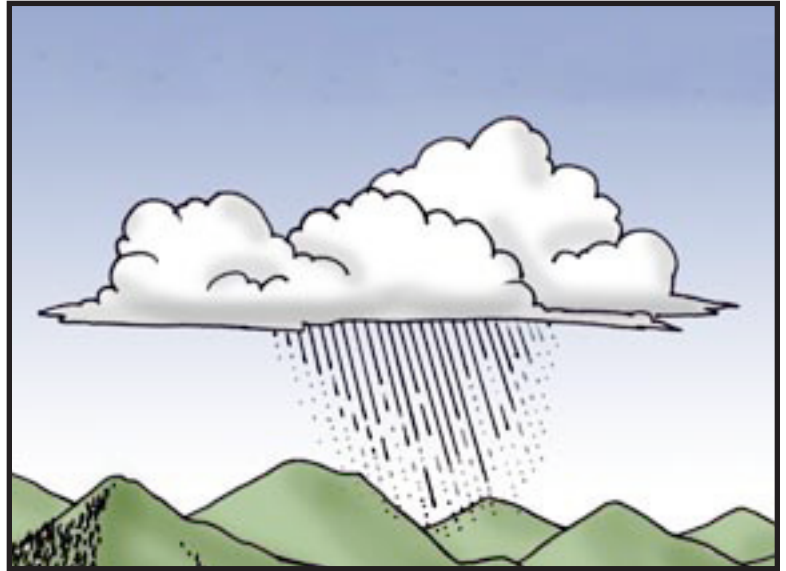


Rain Making – Understanding the Formation of Rain

We have kept roughly the same amount of water on Earth as solid ice, liquid rain and gaseous water vapor throughout time. It continually cycles and moves from the ocean, polar ice caps, rivers, lakes, wetlands, snow, underground aquifers and water vapor in the clouds. This is called the water cycle. (See water cycle details under Ecology or Weather.)

Put very simply, water on Earth in the ocean and other waterways is heated by the sun and changes to water vapor – it evaporates. It rises into the atmosphere where the air pressure is lower and the temperature is colder. The water vapor cools and forms back into very tiny water droplets. The water droplets form clouds. The clouds gather all the tiny water droplets together until they are big enough to fall as rain or snow. This is also called precipitation.



We are going to make the same conditions as this water cycle and make rain fall right here.

Materials:

1. 2 pie pans
2. Ice cubes and cold water
3. An oven mitt
4. An electric (plug in) teapot
5. Help from an adult

Procedures:

1. Fill the kettle with water and plug it in.
2. Place an empty pie pan on the table in front of its spout.
3. Add cold water and ice cubes to the other pie pan.
4. When the teapot boils put on your oven mitt to protect your hand and hold the pie pan full of ice water up over the steam rising out of the teapot spout.
5. The water vapor from the steaming pot will begin to collect on the bottom of the ice-chilled pie pan. It will cool and condense. Soon water droplets will begin to drip down into the bottom pie pan.
5. You have created a rain shower!

Explanation: Heating the water in the teapot, mimics the sun heating water on Earth into rising water vapor. The pan of ice water is the colder atmosphere above. When the water vapor rises and hit the cold atmosphere (ice water pan), it turns back into water droplets (condenses) and falls as rain.