1. **Rain-in-a-jar**
   a. **Materials**
      i. A 2-liter soda bottle, cut in half (a jar and a bowl or plate can also be used)
      ii. Warm water
      iii. Blue food coloring
      iv. Ice
   b. **Procedure**
      i. Fill the bottom half of the bottle (or jar) about 1-inch high with warm water.
      ii. Add the blue food coloring to simulate the ocean or another body of water.
      iii. Invert the top half of the bottle and fill it with ice. Place it in the bottom half.
      iv. Wait a few minutes to see clouds and droplets of rain forming!
   c. **Explanation**
      i. The warm water heats the air around it; this moistened air (water vapor) rises (evaporation)! The water vapor will reach the inverted top half of the bottle, filled with ice, and cool down. The cooled water vapor condenses along the sides of the bottom half of the bottle, making the bottle foggy looking! Water forms when enough water vapor has cooled (the rain), like a cloud overflowing when it has too much rain! This rain falls back down to the warm water.

2. **Rainbow rain**
   a. **Materials**
      i. 1 glass jar
      ii. Water
      iii. Shaving cream
      iv. Food coloring
      v. A small spoon
   b. **Procedure**
      i. Fill the jar about \( \frac{3}{4} \) full with water.
      ii. Spray enough shaving cream to cover the top of the water completely.
      iii. Use the spoon to drip water onto the shaving cream. Keep dripping water until you notice the water going through the shaving cream and reaching the bottom of the jar.
      iv. Then drop food coloring onto the shaving cream.
   c. The shaving cream represents a rain cloud! When a cloud is so full of mass (water), the mass must go somewhere, so it breaks through the cloud and falls to the ground (in this case, the bottom of the jar).