

CLOUD IN A BOTTLE



MATERIALS:

- 2-liter clear plastic pop bottle
- matches (children will need adult assistance to light matches)
- warm water

PROCESS:

Fill the clear plastic 2-liter bottle one-third full of warm water and place the cap on. As warm water evaporates, it adds water vapor to the air inside the bottle. This is the first ingredient to make a cloud.

Squeeze and release the bottle and observe what happens. You'll notice that nothing happens. Why? The squeeze represents the warming that occurs in the atmosphere. The release represents the cooling that occurs in the atmosphere. If the inside of the bottle becomes cover with condensation or water droplets, just shake the bottle to get rid of them.

Take the cap off the bottle. Carefully light a match and hold the match near the opening of the bottle.

Then drop the match in the bottle and quickly put on the cap, trapping the smoke inside. Dust, smoke or other particles in the air is the second ingredient to make a cloud.

Once again, slowly squeeze the bottle hard and release. What happens? A cloud appears when you release and disappears when you squeeze. The third ingredient in clouds is a drop in air pressure.

EXPLANATION:

Water vapor, water in its invisible gaseous state, can be made to condense into the form of small cloud droplets. By adding particles such as the smoke enhances the process of water condensation and by squeezing the bottle causes the air pressure to drop. This creates a cloud!