

MAKING A CLOUD

Tuesday, May 26, 2020

NEED

- 1 Glass Jar (like a mason jar or larger)
- Hairspray
- 1 lid (Can be the mason jar lid or a pie tin)
- ice cubes
- Hot water

STEPS

1. Pour your hot (the hotter the better) water into your jar. Fill about 1/4 of the jar.
2. Add as many ice cubes as you can to the underside of your mason jar lid, or pie tin, if you're using a larger jar.
3. Set the lid/tin on top of the jar opening for a minute or so. Allow the ice to settle and even melt a bit. The goal is to get the entire lid/tin cold.
4. Quickly: Remove the lid/tin from the jar opening and spray hairspray into the jar. Immediately put the lid/tin back on the jar opening.
5. Let the lid/tin sit over the jar opening for another minute or so.
6. You should see the cloud beginning to form!
7. Lift the lid/tin and let the cloud escape from the jar. Wave your hand through your cloud to feel the moisture!

WHAT HAPPENED?

You created a cloud! Clouds are made of water. In this experiment, the warm water on the "ground" (bottom of the jar) tried to evaporate by changing phase into water vapor. This is called evaporation. The tiny droplets of water vapor then ran into the cold air above (the top of the jar). At this point, condensation occurred and we saw a cloud form! Water vapor condenses most easily when the tiny water droplets can attach to other particles. In this case, the hairspray acted as our particles. On earth, things like dust or smoke can act as great "condensation nuclei".