

Homemade Rain

Action

A boiling kettle will release water vapour and when enough condenses on a metal spoon, it will "rain".

Grade Level

Grade 2 - Weather, Air and Water

Grade 3 - Properties of Matter, Heating and Cooling

Materials

- A large metal spoon or soup ladle
- A kettle approximately 1/3 full of water

Instructions

- Place the metal spoon in the freezer for a few minutes before conducting the experiment.
- When the spoon is ice cold, turn on the kettle. Leave the spoon in the freezer until the kettle boils.
- When the water boils, remove the spoon from the freezer. Hold the spoon in the vapour coming from the kettle.
- The vapour will condense on the cold spoon and, once enough has accumulated, it will "rain".

Safety

If the metal spoon does not have a plastic handle, use a glove or a towel to hold the spoon when it is cold. This will prevent your hand from getting cold and the spoon from warming up .

Hints

Make sure the spoon is ice cold or the results will not be as good.

Science Principle

Rain outside is made based on the same principle that makes this experiment, but on a larger scale. The kettle warms the water like the sun warms the water on the Earth. The water becomes warm enough to allow for the surface water to evaporate. As the warm air containing the water vapour rises, it begins to cool and a cloud of vapour forms. As more water vapour rises, the cloud increases in size. Cold air cannot hold as much water vapour as warm air. As a result, when the air gets too cold to hold all the water vapour in it, some of the water condenses and falls back to Earth as rain or snow. Then cycle then repeats itself.