Condensation Lab

Names_____
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The purpose of this lab is to show conduction.
Condensation is the transfer of heat by collisions of rapidly moving molecules.

Materials:
Paper cup
Water
Tongs
Candle

Procedure:

1. Fill the paper cup about 2/3 full of water.
2. Hold the top edge of the cup with tongs, and hold the cup about 2 inches above the flame.
3. Wait for the water to get hot.

Answer the questions.

1. What's happening?

2. Why doesn't the paper cup catch on fire?

3. What does this have to do with weather?

Answer key:

2. Why doesn't the paper cup catch on fire?
Molecules are moving rapidly; heat is being transferred; conduction is occurring. The paper cup heated by the flame conducts heat from the air to the water, and as a result, the paper stays cool. The temperature at which water boils is lower than the temperature at which paper catches on fire or ignites.

3. What does this have to do with weather?
When the surface of the earth warms up, heat is transferred from the earth to the air just above it through the process of conduction. As the air warms, it may become unstable, causing winds and clouds to form.