Changing State – Condensation

Objective: Students will be able to:

- Describe on the molecular level how cooling water vapor causes condensation.
- Describe the roles evaporation and condensation play in the water cycle.

Question to Investigate: What happens when water vapor condenses?

Key Concepts:

•	is the process in which molecules of a gas			, come
	together, and form a liq	uid.	_	
٠	When gas molecules		to something cooler, they	and
	their	_ cause them to _	to become a liquid.	
•	Making water vapor col	der	the rate of condensation.	
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• Increasing the ______ in the air ______ the rate of condensation.

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Changing State – Condensation: Processing

Explanations:

Explain, <u>on a molecular level</u>, how <u>extra cooling</u> affects the rate of condensation $(2^{nd}$ experiment). You may draw a picture or answer in your own words.

Fogging up a cold window:

When you breathe out, there is water vapor in your breath. When you breathe on a cold window in the winter, the window gets tiny droplets of moisture on it or "fogs up." What happen to the <u>molecules of water vapor</u> as they get near the cold window?

Warm breath in cold air:

When you breathe out in the winter, you see "smoke," which is really tiny droplets of liquid water. What happen to the <u>molecules of water vapor</u> as from your breath when they hit the cold air?

Water Cycle:

Identify (recommended to use color) in the picture show where evaporation and condensation happen the water cycle.

