

Inq. 6.2 - "Cloud in a Bottle" Lab

Name _____

Date _____

Period _____

Background:

1. Which statement is the best description of how a cloud forms?
 - a) Warm and cold air molecules pack together.
 - b) Warm air rises, then cools and sticks to air particles.
 - c) Warm, humid air rises, then cools and water vapor condenses onto dust particles
 - d) Warm air rises, condenses on air, and then cools to form a cloud

2. What are the five "ingredients" to make clouds? (see pg. 68 if you need help.)

- _____
- _____
- _____
- _____
- _____

Materials: clear 2L bottle with cap, warm water, and smoke.

Testable question: Do clouds form under high air pressure conditions or low air pressure conditions?

Prediction:

3. What do you think is the answer to the testable question?

Manipulated Variable:

4. What are we changing between the two set ups? (*Hint: reread the testable question!*)

Response Variable:

5. What are we observing and recording? (*Hint: reread the testable question!*)

Procedural Stuff:

6. Squeezing the bottle will simulate _____ air pressure.

7. Letting go of the bottle will simulate _____ air pressure.

8. Why does smoke need to be in the bottle for a cloud to form?

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Observations

(2) Air Pressure and Cloud Formation

Air Pressure	Cloud Formation? (yes or no)
High	
Low	

Conclusions: *Please use complete sentences!*

(2) 9. What is the answer to the testable question?

(2) 10. *Using your data*, would the weather be cloudy and rainy **OR** clear and sunny at an area with high air pressure?

(2) 11. *Using your data*, would the weather be cloudy and rainy **OR** clear and sunny at an area with low air pressure?

(10) 14. Starting with warm water, describe how a cloud is formed. *Use **all** the words in the box below.* Other forms of the words are okay. Be sure to box/circle the words in your sentences. *Use capitals, periods, and proper spelling!!*

evaporates	cold	low air pressure
condenses	cloud	water vapor
dust particles	warm	rises
