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## Superheated Steam Demonstration Worksheet

## **Discussion Questions**

- 1. Note any observations you made regarding the following:
  - *a*. The initial appearance of the steam.

b. What happened when a piece of paper was held in that initial steam?

*c*. The appearance of the superheated steam.

d. What happened when a beaker was held in the superheated steam?

e. What happened when a piece of paper was held in the superheated steam?

f. What happened when a match was held in the superheated steam?

2. What state was the initial steam in? What state was the superheated steam in? Explain how the difference occurred.

3. The specific heat of gaseous water at 100 °C is 33.1 J/moll·°C at 1 atm, the heat of vaporization of water at 100 °C is 40600 J/mol·°C, and the heat of liquid water at 100 °C is 75.3 J/moll·°C. What releases more heat—water condensating from 100 °C to 99 °C or boiling water cooling to 99 °C?

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