

# The Imploding Can

1. Draw a series of 3 pictures to illustrate why the can was crushed when it was turned over into the ice water. Label and illustrate the states of matter, the changes in state, and the air pressure inside and outside the can.

- A. Can with small amount of liquid water.
- B. Can on the hot plate
- C. Can turned over into ice water.
- D. Crushed can

2. Use the following concepts/ideas to create a conceptual model that explains why the can was crushed when it was turned up-side-down into the ice water. You may use some of the concepts/ideas more than once.

Water (liquid)

Water (gas)

evaporation

condensation

particles close together

particles far apart

High Pressure

Low Pressure

endothermic

exothermic

Hot plate

Ice Water

1000 times less volume

1000 times more volume

## The Imploding Can

3. Using the conceptual model that you developed in #2, write a concise, yet thorough explanation of why the can was crushed when it was turned over into the ice water.

**Prompt:** First, the can was placed on the hot plate with a small amount of liquid water. As the water was heated, .....