



# Who Says a Watched Pot Never Boils?

Name \_\_\_\_\_

Class \_\_\_\_\_

## Problem

What are the temperatures when water changes state from a solid to a liquid to a gas?

## Hypothesis

The water will change from a solid to a liquid at \_\_\_\_\_ °C and from a liquid to a gas at \_\_\_\_\_ °C.

## Data Collection

1. As the temperature increases, watch what happens to the ice and the water.

Record your observations below.

Temperature (°C)	Observation

2. After all 90 data samples have been collected, enter the melting point and boiling point below. Then average your temperatures with the other lab groups in your class.

Activity	Time (sec)	Temperature (°C)	Average Temperature (°C)
Ice is completely melted			
Water reaches a full boil			



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3. In the space below, sketch the graph or print it on the computer and attach it to this page. Label the axes and show the significant events you observed.



### Data Analysis

1. How does your hypothesis compare to the results obtained from your test? Describe any differences.
2. Describe what you observed as the ice melted, as the temperature began to increase, and as the water started boiling.
3. Based on your data, what was the melting point for the water? \_\_\_\_\_  
The boiling point? \_\_\_\_\_  
How do these compare with the known values? If they are different, what could have caused the difference?



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4. What do you think was in the bubbles that rose to the surface of the water? Why did they rise to the surface?
  
  
  
  
  
  
  
  
  
  
5. What happened to the temperature when the water was boiling?
  
  
  
  
  
  
  
  
  
  
6. What do you think would happen to the temperature if it were measured while the water was freezing? What would happen to the temperature of the ice after the water froze if the temperature in the freezer was  $-10^{\circ}\text{C}$ ?

### Conclusion

The water will change from a solid to a liquid at \_\_\_\_\_  $^{\circ}\text{C}$  and from a liquid to a gas at \_\_\_\_\_  $^{\circ}\text{C}$ .