

Heat Convection in Fluids Worksheet

Data Table 1

| | | | | |
|------------------|---|---|---|---|
| Time (minutes) | 0 | 1 | 2 | 3 |
| Temperature (°C) | | | | |

Data Table 2

| | Without Divider | With Divider | After Divider Removed |
|------------------------|-----------------|--------------|-----------------------|
| Burning Time (seconds) | | | |
| Appearance of Flame | | | |

Post-Demonstration Questions

1. During the *Convection of a Liquid* demonstration, describe any movement of water that was observed once the cold water covered the flask of hot water. Did this movement change over time? If so, how?
2. If the flask and beaker setup were left for a longer period of time, would the convection of water eventually stop? Why or why not?
3. During the *Convection of a Gas* demonstration, describe and compare the appearance of the flame in the tube when the divider was not in place with the appearance of the flame when the divider was in place.
4. Record the observations that were described when two fingers were placed on opposite sides of the divider above the tube.
5. Explain how the observations from this activity demonstrate that the divider allowed a convection current to form in the cylinder.