



# The Effect Of Preheating On a Liquid's Freezing Rate

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## Problem addressed

To What Extent Does The Mpemba Effect Hold True For Liquids Other Than Water?

## Objectives

- Authentication of Mpemba Effect
- Determine if there is a correlation between initial temperature and freezing rate.

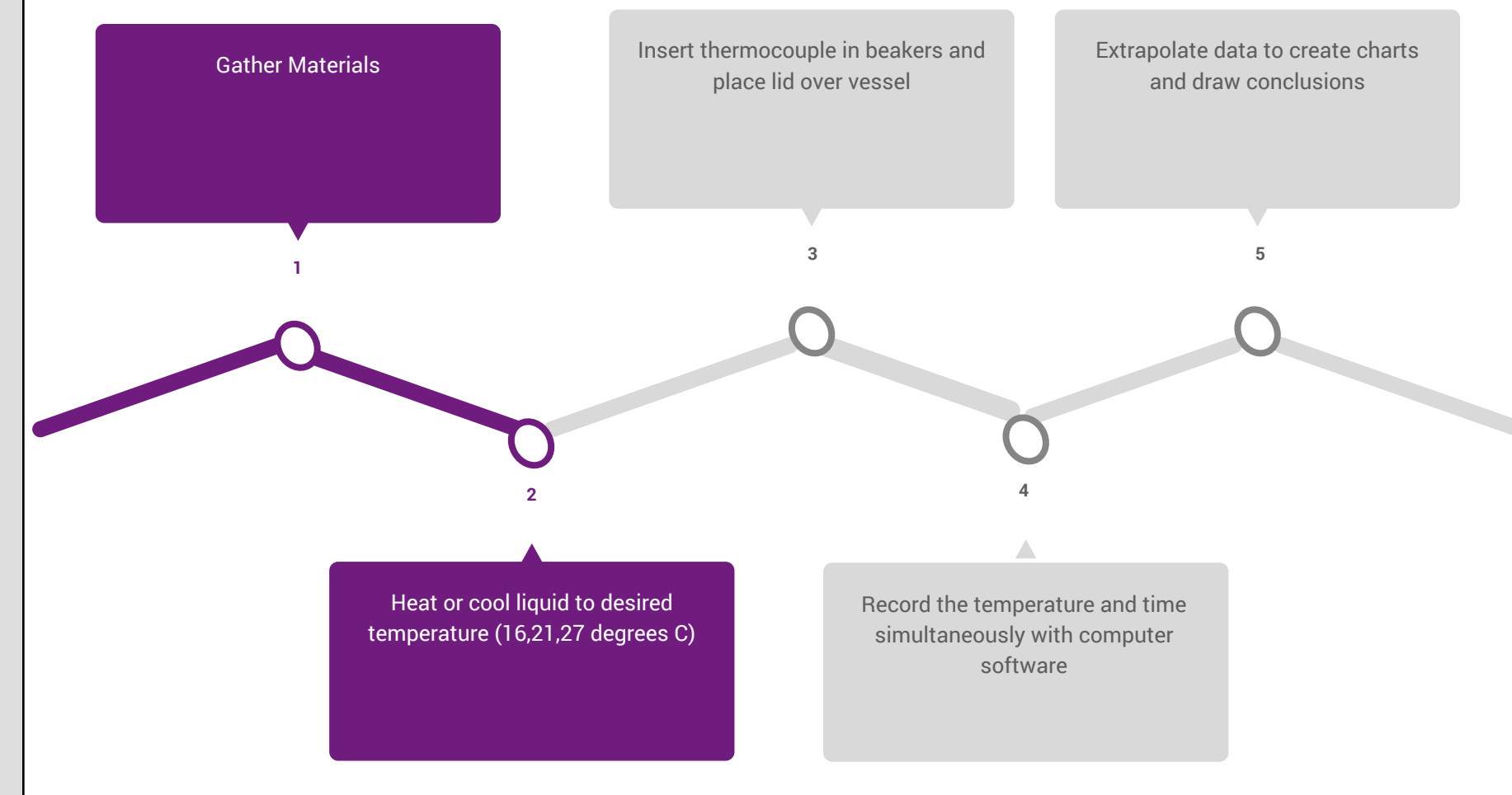
## Limitations

- Equipment Used
- Measurements and Calculations
- Experimental Variability

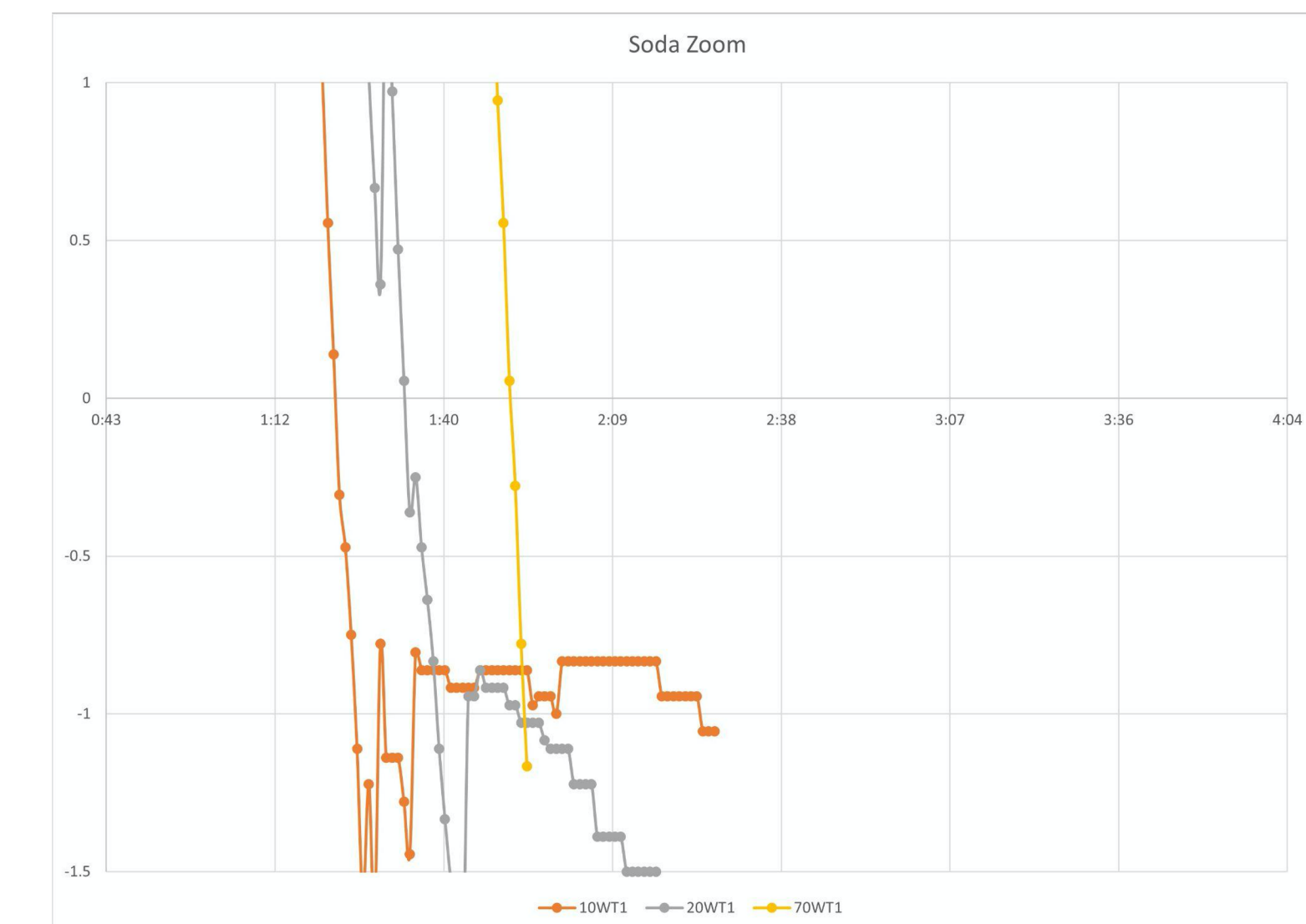
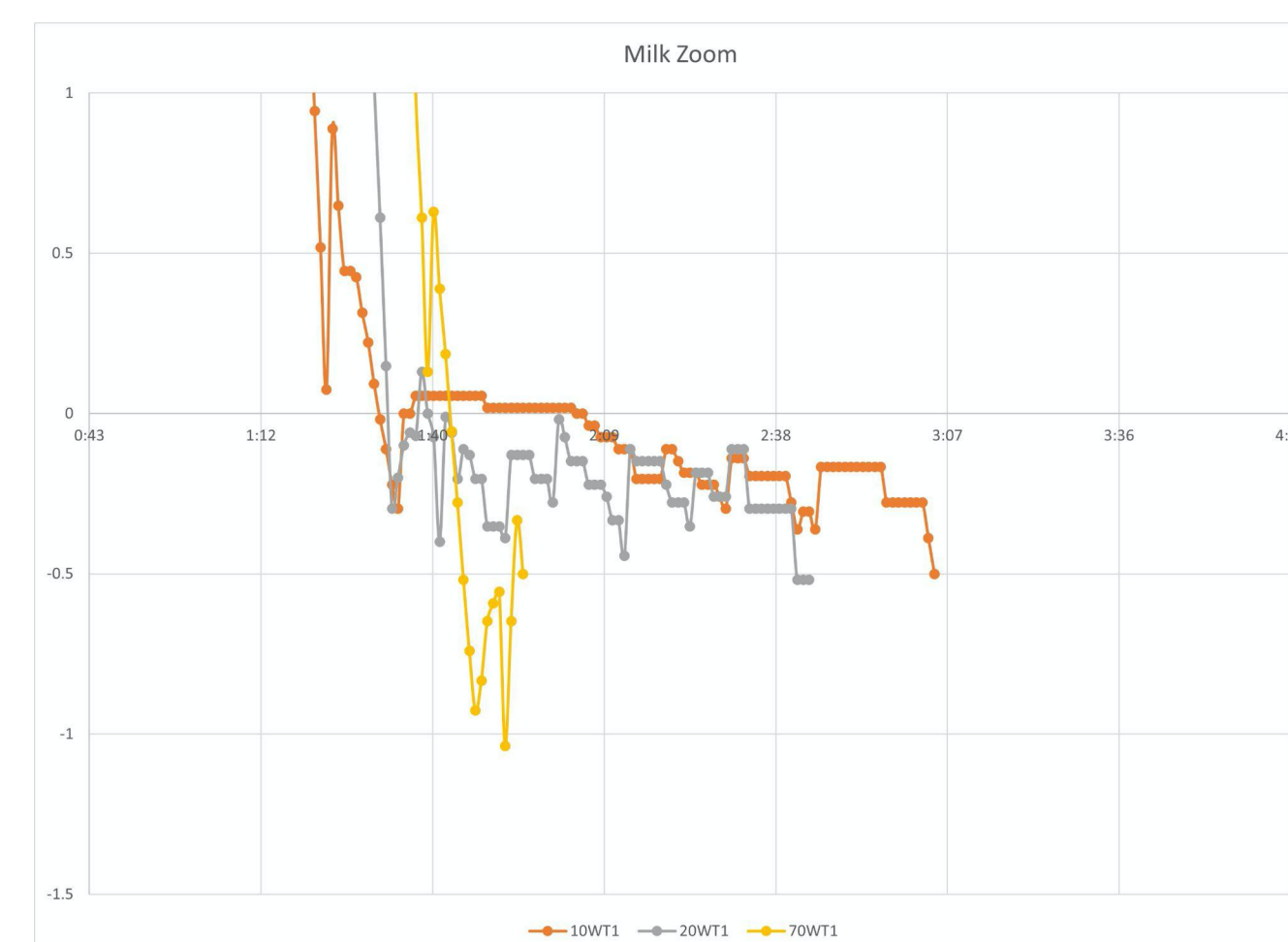
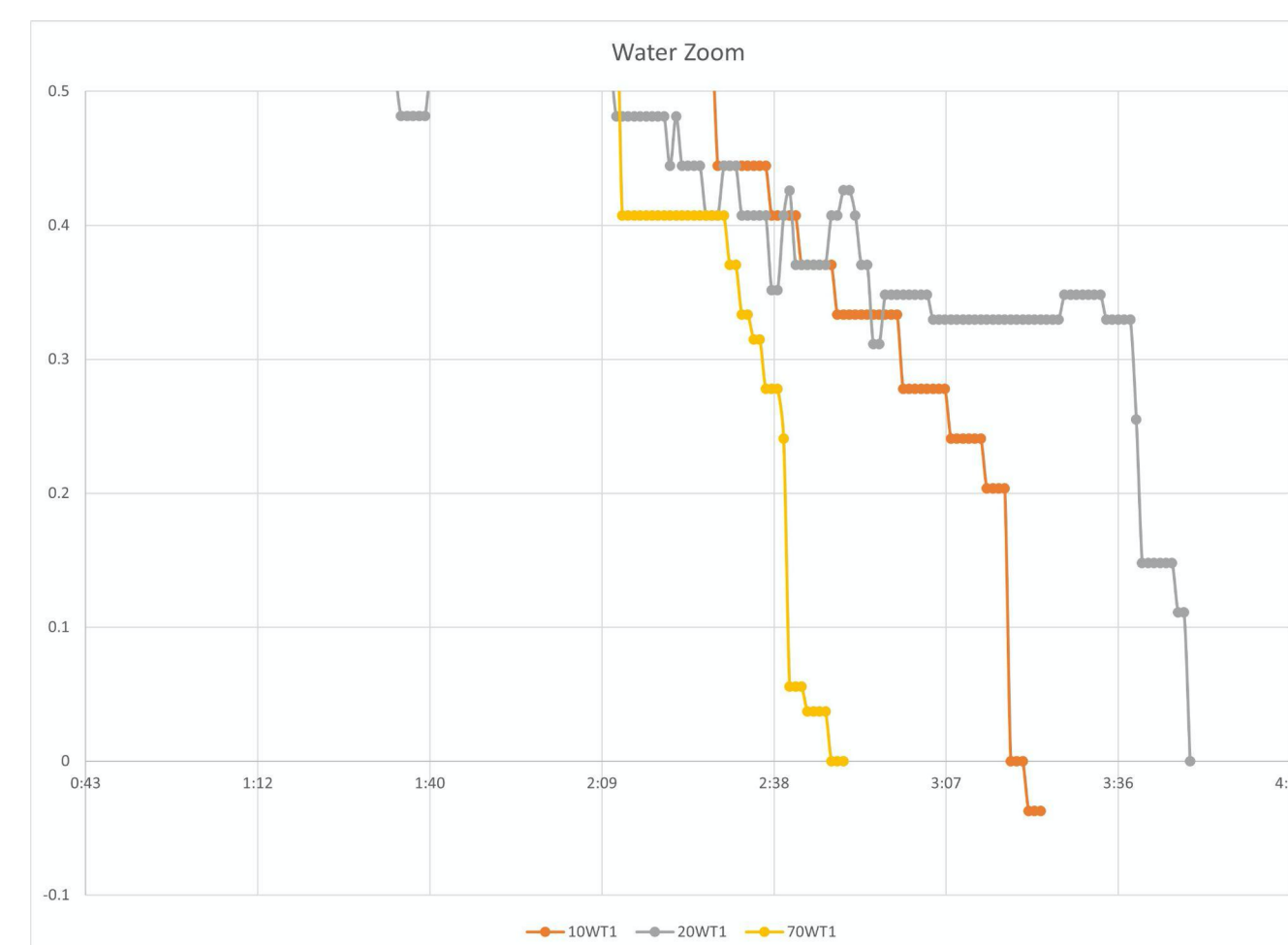
## Abstract

- What is the Mpemba Effect and the reasoning behind its occurrence?
- What influences the crystallization rate?
- Conflicting conclusions on whether the Mpemba Effect exists within the scientific community.

## Methodology



## Results



## Analysis

- Milk/Water held true according to the Mpemba Effect, but Soda did not hold true.
- Temperature change was not consistent when approaching the freezing point.
- Supercooling and dissolved gasses affect the freezing pattern, which influences freezing rate.

## Conclusion

- Implications of Mpemba Effect (Ice cream and industrial freezing processes).
- Composition of liquid influences results
- Future research with improved equipment