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News: Mpemba Effect

- The Mpemba effect has intrigued scientists with its counterintuitive observation that hot water can freeze faster than cold water in similar conditions.
- Researchers have conducted numerous experiments to determine the causes of the phenomenon, but a consensus conclusion remains wanting.
- Possible causes include microbubbles, evaporation, the presence of frost in cold water, and the effect of compounds precipitated by boiling.
- Microbubbles left suspended in water that has been heated by boiling. These promote convection and transfer heat faster as the water cools.
- Evaporation, an endothermic (heat absorb) process, contributes to faster heat loss in warmer water.
- Warmer water's lower density enhances convection and accelerates heat transfer, influencing the freezing process.
- The presence of frost in cold water may act as an insulator, this raises the freezing point of cold water and slows heat loss and affects freezing times.
- Compounds in water like calcium carbonate could be precipitated by boiling, and then dissolve, thus increasing the water's freezing point.