

Hot Or Cold Ice

Hot or cold Ice?!? Sounds like a crazy name for an experiment. Of course, ice is always cold but in this experiment we'll take a look at which freezes first hot or cold water?

What do I need:

- 2 identical cups (ideally plastic!)
- Hot water
- Cold water

How do I do it?

STEP 1 - The setup for this experiment couldn't be much simpler. All we need is two identical cups and some hot and cold water.

WARNING: For safety it's best to use plastic cups as water gets a little bigger when it freezes which could cause a glass to shatter if you didn't keep an eye on it.

STEP 2 - Pour some hot water into one of your glasses and exactly the same amount of cold water into the other.

STEP 3 - The idea in this experiment is to see which freezes first. The hot or the cold water. Which do you think? Make your prediction now!

STEP 4 - To make sure that this is as fair a test as possible place the hot and cold cups of water close to one another in the same part of the freezer and time which one freezes first.

STEP 5 - What?!? Not what you thought?

STEP 6 - If you got a different result to the one that you were expecting then the best thing to do is to repeat the experiment but with the hot and cold water in opposite positions. Do you still get the same result?

What's going on?

It's very likely that you found that your hot water froze before your cold water did.

This doesn't seem like it makes too much sense and that's exactly why I wanted to include this simple but baffling experiment.

Sometimes hot water freezes faster than cold water and this is known as the Mpemba effect. There are many different variables that can cause this. One theory is that more of the hotter water evaporates first meaning that there is less water to freeze so it freezes more quickly.

Another theory is that the convection currents within the hot water are the cause. The truth is that we're not really sure, which is why I thought this was the perfect experiment to include.

More Fun Please - Experiment like a real scientist!

- Do you find that that it's the hot or the cold water that freezes first each time?

