

Instant Ice Winter Science Experiment



Watch ice form before your very eyes in this fun science experiment!

What you need:

- Water bottles (6 - 12, just in case)
- Ice cubes
- Small bowl
- Towel

Directions:

1. Place your full water bottles in your freezer (or you can do it outside). Lay them flat on their sides rather than upright. They freeze better this way. If you want to experiment, place some upright and some on their sides and see which one works best.
2. Cool the water for about two to two and a half hours. At the two-hour mark, take out one bottle and test it. If you can slam it on the count and nothing forms, the water isn't cool enough yet. When you get one that hardens, it is ready to go, but you'll have to work quickly!
3. Turn the bowl upside down over a towel (to catch the spills) and place a large ice cube on the bowl.
4. Carefully pour the water slowly onto the ice cube. The water will create a column of ice!
5. In about 20 seconds, the water will get too warm for this trick to work, but you can repeat it with all the water bottles you have.



Instant Ice Science Explained:

The trick to this experiment is super-cooled water. You're catching the water when it is cold enough to freeze but hasn't quite frozen yet. When ice freezes, the water forms small crystals that gradually spread. If you catch the cold water before the crystals have time to

form, you can still pour out the water and it will freeze as you pour. Pouring it over an ice cube triggers crystals to form faster than they normally would.

You can get a similar effect by smashing a still-closed bottle of super-cooled water onto a hard surface. This triggers the crystals to form, instantly hardening the ice inside the bottle. The weather term for this process is called a “snap freeze.”