

# Is Water Wet? – We Still Don't Understand What Water Is, Here's Why

## [We Still Don't Understand What Water Is, Here's Why](#)

by [Seeker](#)

June 25, 2020

Water is actually really weird—like, way weirder than you probably realize—and our understanding of it might only just be coming to a boil.

Water can dissolve more solids than any other substance, water has at least 66 properties that differentiate it from most other liquids, and water is almost the only liquid in the universe where the solid form is less dense than the liquid form. Water is really weird, but it has also made life on Earth possible and all its incredible characteristics exist thanks to the hydrogen bond. Water consists of one oxygen atom bonded to two hydrogen atoms:  $H_2O$ . In this Elements, we explore a debated school of thought: Is water actually two different liquids instead of one complicated one? And can this hypothesis actually help us explain water's strange properties? Watch to find out more.

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## [Five Things We Still Don't Know About Water](#)

“Yes, water is common—in fact, it is the third most common molecule in the universe. But, contrary to Mother's views, it is also deceptively complex. Here are just a few of the scientific problems related to water that remain open today.”

## [The Weirdness of Water](#)

“Whether a mixture of two liquids or just one, water’s properties are also fundamental to biology. ‘Water is the thing that gives [nucleic acids] their interesting structure and properties, and it’s the same with proteins,’ says Chaplin. Life itself has flourished because ice is less dense than water, allowing organisms to survive underneath floating ice layers. ‘What is interesting is we are peering into the region where life exists when [water’s anomalous behaviour] pops up,’ says Nilsson. According to his two-state model, it is only at temperatures below 50°C that water becomes a mixture of low- and high-density liquid and this is also the temperature region at which life exists. ‘Is this a coincidence, or is there something significant about that?’ asks Nilsson. ‘We don’t [yet] know.’”

[How polarity makes water behave strangely – Christina Kleinberg](#)

“Water is both essential and unique. Many of its particular qualities stem from the fact that it consists of two hydrogen atoms and one oxygen, therefore creating an unequal sharing of electrons. From fish in frozen lakes to ice floating on water, Christina Kleinberg describes the effects of polarity.”

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