5 Runny liquids

Some liquids are runnier than others, but most can be made more runny by being warmed.

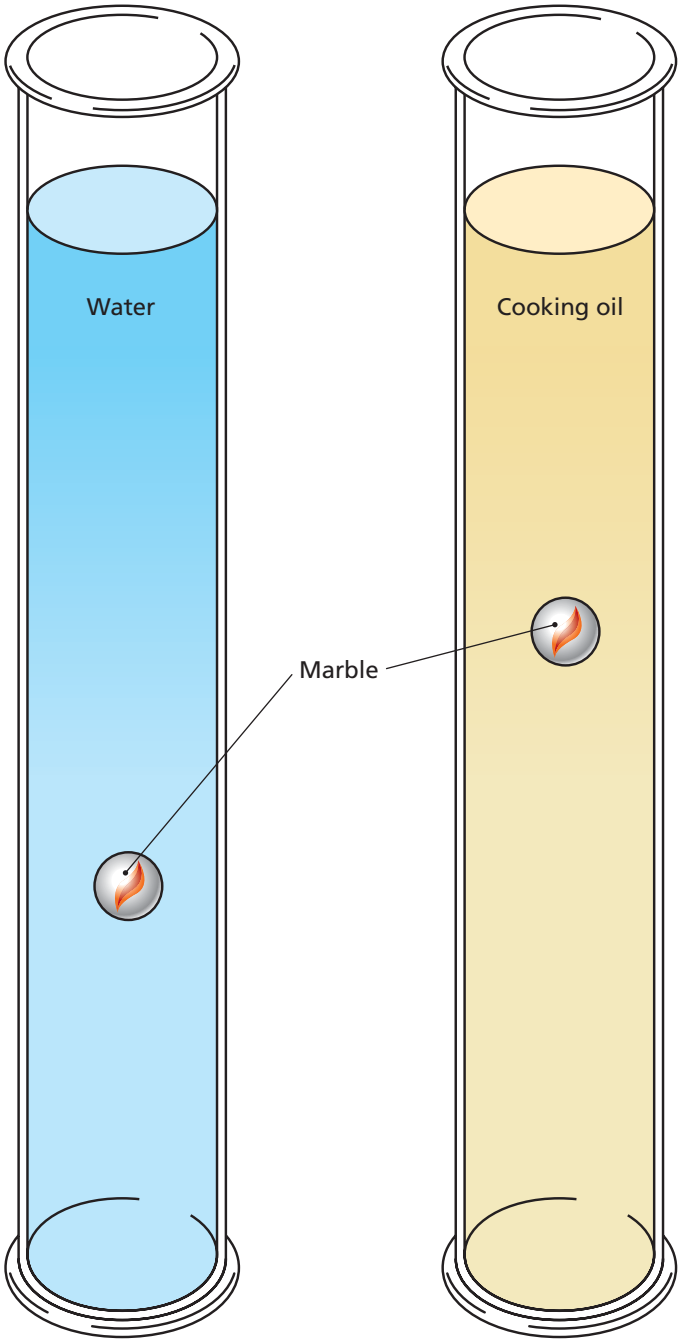
All liquids are runny, but some liquids are more runny than others.

To test this, you could pour out different liquids and see how fast they spread. But there is a less messy and better test. To try it fill one clear, tall container with water and fill another, identical container with cooking oil.

If you dropped a marble into each of the containers at the same time, you can easily see which sinks fastest (Picture 1).

If you filled a third jar with cooking oil and then placed it in the fridge for a few hours, you could test whether the cold oil is stickier than the oil kept at room temperature. You would see that a marble sinks more slowly in cold oil than in warm oil.

Some liquids become much stickier when they are cold, and much runnier when they are warmed. You have seen that oil is one of these.



◀ **(Picture 1) Two containers, one filled with water (left) and the other filled with cooking oil (right) can be used to show that water is runnier than cooking oil.**

Why some liquids are runnier when warm

When some liquids are cold, their particles grip together more strongly and so the liquid changes shape more slowly. When these kinds of liquids are warm, their particles only grip weakly and so the liquid becomes runnier.

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▲ **(Picture 2) This is lava erupting from a volcano. It is so hot and runny that it makes a waterfall.**

Lava on the move

LAVA is a natural material that comes from deep under the ground when a volcano erupts. When the lava first comes out of the ground, its temperature is over 1,000°C.

When lava first flows from the volcano it is runny and makes fountains, flows in rivers, and even pours down over ledges to make fiery waterfalls (Picture 2). But the longer it flows, the cooler it gets, and so the stickier it becomes.

As the lava becomes cooler it slows down. You can see it cooling down because it changes colour from red to black (Picture 3). Once it is cool the lava is so sticky that it can move no further and so it stops. It has turned into a solid.

▲ **(Picture 3) When lava has travelled over the land for some kilometres it hardly moves forwards at all. Finally, it cools to a black rock.**

Summary

- **Some liquids are runnier than others.**
- **Some liquids become more runny when they are warmed.**
- **Some liquids become stickier as they cool.**