

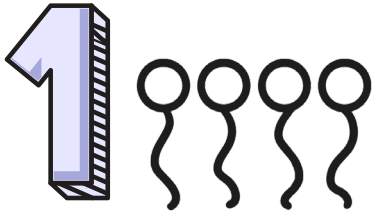
# The Science of Handwashing:

## How soap kills the coronavirus and other germs

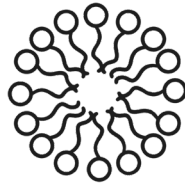


It may seem simple, but the act of handwashing is lethal to viruses like the coronavirus.

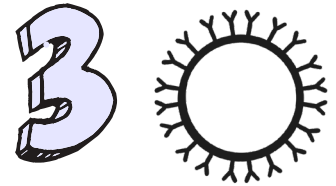
Let's take a closer look at this dollop of soap!



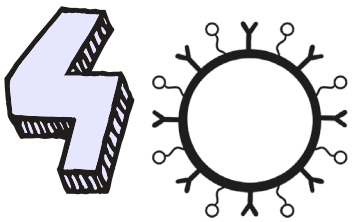
1 A soap molecule has a head and tail. The head is hydrophilic (attracted to water), and the tail is hydrophobic (repelled by water).



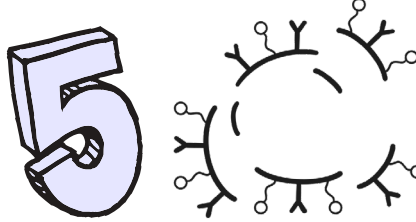
2 When soap molecules dissolve in water, they arrange themselves into spherical clusters called micelles, with the hydrophilic heads on the outside & the hydrophobic tails on the inside.



3 The coronavirus has a core of genetic material surrounded by an outer double fatty layer with spike proteins. This fatty layer repels water and protects the virus.



4 The soap molecule's hydrophobic tail attaches to the virus's fatty covering ...



5 ...and pulls the virus apart, killing and destroying it.



6 And when you add more water, it washes away.

**BUT!** For all of this to happen, it takes at least 20 seconds!



That is why washing your hands is so effective against the coronavirus!

The power to slow the spread of COVID-19 is literally in your hands.

This infographic was adapted from NewYork-Presbyterian's Health Matters article, "How Soap Suds Kill the Coronavirus." To read this article, visit: <https://healthmatters.nyp.org/how-does-handwashing-with-soap-kill-the-coronavirus/>

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