

Name \_\_\_\_\_ **COVID-19**

## **What is the Source of the Virus and How Does It Spread?**

Coronavirus disease 2019 (COVID-19) is a novel (new) coronavirus that first appeared in Wuhan, China at the end of 2019. Since that time, it has spread to more than 70 other countries. Scientists publishing in the journal Nature Medicine say that COVID-19 is the product of natural evolution, meaning that there is no evidence that it was created in a laboratory or genetically engineered. They were able to determine this by comparing its genome sequence to known strains of coronavirus.

There are many different kinds of coronaviruses, most of which affect either animals or humans. The illnesses caused by coronaviruses range in severity from fairly mild (the common cold) to quite severe (the Severe Acute Respiratory Syndrome (SARS) epidemic in China and the Middle East Respiratory Syndrome (MERS) in Saudi Arabia in 2002 and 2012 respectively). What distinguishes coronaviruses like SARS, MERS, and COVID-19 is their ability to jump from animals to humans.



Cases of COVID-19 have continued to rise because it is being transmitted from human to human through regular social interaction since first being introduced into the human population by a non-human host, most likely bats. When people within the same geographical area become infected, though they are not aware of having come into contact with anyone who is sick, it is called community spread.

The virus has been so successful in spreading and attacking its hosts because of spike-shaped features on the outside of the virus that it uses to latch onto and penetrate the cells of its hosts. Scientists believe that the virus either evolved to its present state in animals and then jumped to humans, or it jumped to humans and then evolved into its present state inside the human population. It is unknown at this point which theory is correct, but the first one is the more dangerous, as it could mean that the virus could continue to circulate amongst animal hosts and jump to humans again at any time in the future.