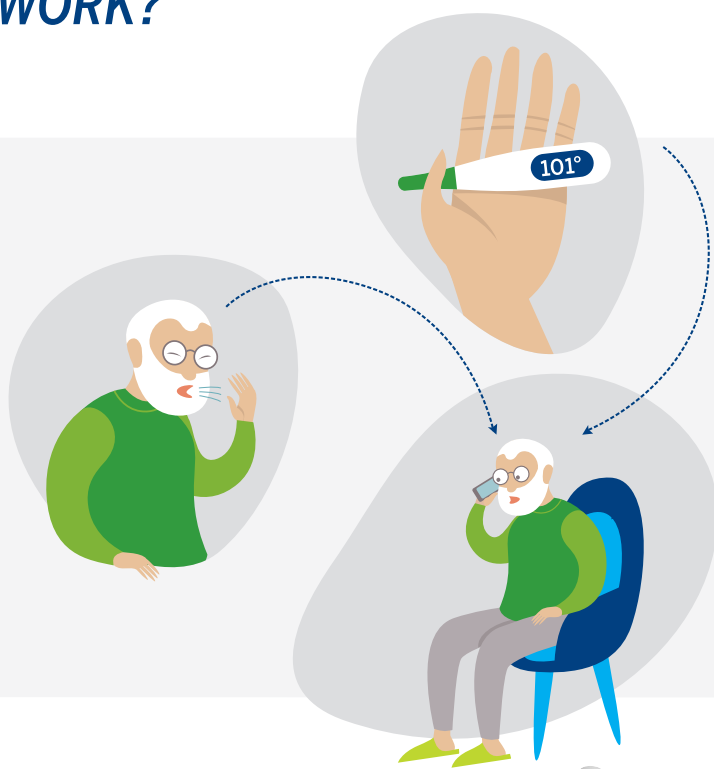


# MOLECULAR TESTS FOR CORONAVIRUS (SARS-COV-2) & OTHER INFECTIOUS DISEASES

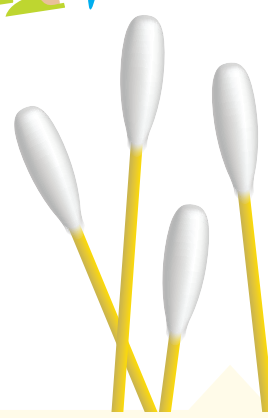
## HOW DO THEY ACTUALLY WORK?

You have a fever and difficulty breathing normally, so you decide to call your doctor. Your doctor suspects you may have COVID-19 and decides to test you for it. What comes next?



1

A medical professional swabs inside your nose to capture a sample containing viral particles.



**What else could they test you for?**

Doctors can use several types of bodily samples to determine what is making you sick, depending on the type of infection they suspect.



BLOOD



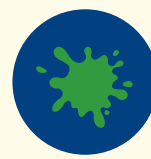
BRONCHOALVEOLAR LAVAGE



STOOL



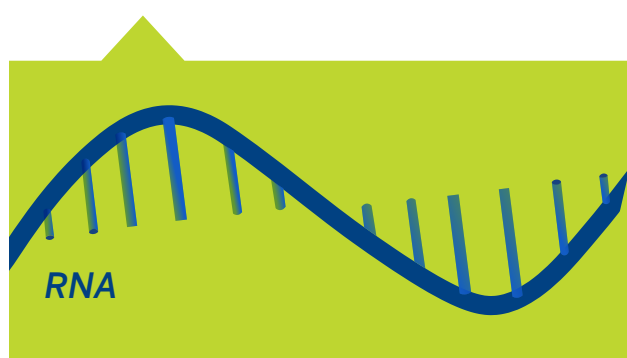
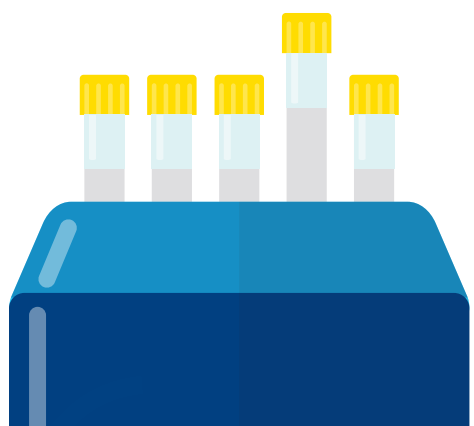
CEREBROSPINAL FLUID



SPUTUM

2

Samples are sent to the lab where machines process them to extract and isolate genetic material.



RNA

Viruses & bacteria carry their genetic material as RNA or DNA. SARS-CoV-2 uses RNA.

3

Once extracted, the RNA is combined with chemical building blocks and an enzyme to copy the RNA into DNA.



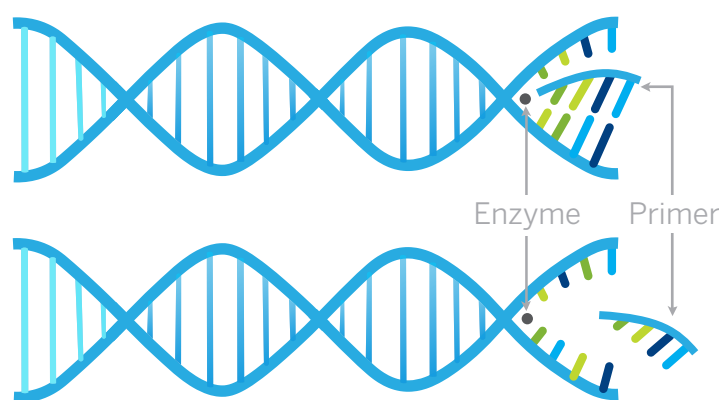
DNA

Some viruses and other organisms carry their genetic code as DNA, instead of RNA, so this step is not always necessary.

4

The new DNA is copied until there is enough to study. This process is called polymerase chain reaction (PCR).

Primers, enzymes, & other chemicals are added. If the primers don't match, the DNA can't be copied.



MATCH



NO MATCH



Nucleotides are the chemical building blocks of DNA.

Nucleotide Matching Pairs



If DNA IS copied, SARS-CoV-2 IS present, which means the test is **POSITIVE**.



If DNA is NOT copied, SARS-CoV-2 is NOT present, which means the test is **NEGATIVE**. Occasionally tests can return a false negative.

5

Lab technicians communicate the test results to your healthcare provider.

