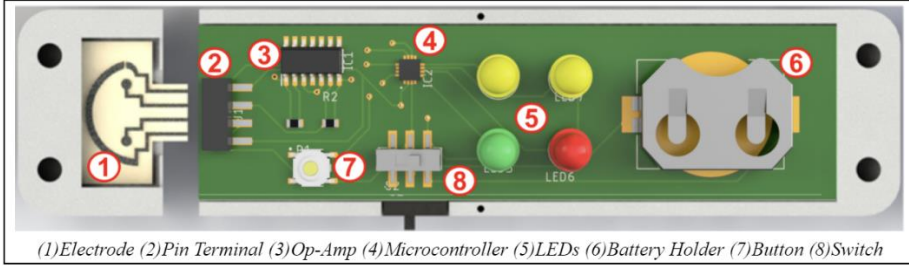


- |  |                                       |
|--|---------------------------------------|
| <b>Step 1</b><br>Turn Kit ON               | <b>Step 2</b><br>Remove Funnel Lid    |
| <b>Step 3</b><br>Add Saliva                | <b>Step 4</b><br>Reattach Lid & Shake |
| <b>Step 5</b><br>Remove Funnel End Cap     | <b>Step 6</b><br>Press "Start" Button |
| <b>Step 7</b><br>Wait 1 Minute For Results | <b>Step 8</b><br>Collect Disposables  |



# 60-SECOND COVID TEST - A TEST KIT YOU CAN COUNT ON!

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## PRIORITIZING PEOPLE’S TIME...DOESN’T THAT SOUND SUBLIME?

Currently available COVID Rapid testing kits suffer from a series of drawbacks; they are slow, invasive, non-biodegradable, and unintuitive. Our kit improves on all these fronts by ensuring tests can be completed within 60 seconds, operate on non-invasively collected saliva samples, consist primarily of biodegradable components and are more intuitive to use. Given the number of people living with or at risk of contracting COVID-19 globally, the provision of faster, more accurate COVID tests will greatly reduce the inconvenience of individuals who spend tens of minutes setting up and waiting for results. Biodegradability will help mitigate adverse environmental impacts by limiting accumulation of plastics waste. Finally, the kit also has the potential for direct integration with patient databases using Bluetooth and NFC, allowing for better data handling.

## DESIGNING FOR ENDLESS POSSIBILITIES

Our kit uses electrical signals produced from the interaction between a saliva sample and a functionalized electrode. Based on the biological proteins present in the saliva sample, the voltage signals produced will differ compared to a blank sample that is known to be free of COVID. Based on the voltage signal of the saliva sample in relation to that of the blank sample (Signal-to-Blank ratio), the kit identifies whether the sample has any COVID biomarkers or not, and the LEDs light-up accordingly. This design presents a convenient testing process for the user as it produces results at a rate up to 93% faster than traditional chemical test kits in addition to improving the biodegradability of the kit by using PLA for the housing structure. Furthermore, the integration of electrical components into the design not only allows for better visual representation of the results, but it also allows for potential of further integration with other electronic devices and digital databases. This makes the test procedure more efficient and reduces the need for human intervention. Overall, with a compact kit design that is intuitive to use and integrates electrical components, it becomes more likely and plausible to adapt to the COVID-19 pandemic.