SOAP - AN EFFECTIVE DEFENCE AGAINST CORONAVIRUS

The science behind this fundamental & crucial hygiene practice explained!

PROPER HYGIENE CAN HELP PREVENT INFECTION.
YOUR LIFE, AND THOSE OF OTHERS, ARE IN YOUR HANDS.

DID YOU KNOW?

Ordinary soap used with water is sufficient to rupture and kill many types of bacteria and viruses, including the new coronavirus that is currently circling the globe.

This is most effective when carried out regularly and thoroughly - soap and water should be properly rubbed over the entire surface you intend washing for at least 20 seconds - this ensures proper coverage of exposed surface areas allowing the soap to destroy the virus molecules by splitting it open and spilling the virus essential proteins out rendering it completely useless.

The secret to soap's impressive might is its hybrid structure.

IMPORTANT

PLEASE DO NOT TRY TO INGEST OR INHALE SOAP OR OTHER CLEANING PRODUCTS & SANITIZERS AS THESE ARE FOR EXTERNAL USE ONLY

THE UNIVERSAL ADVICE REGARDING CORONAVIRUS IS THAT PRACTICING GOOD HYGIENE CAN PREVENT INFECTION & SLOW THE SPREAD OF THIS VIRUS - FREQUENTLY WASHING your HANDS & other SURFACES & everyday OBJECTS WITH SOAP & water, scrubbing surfaces FOR A MINIMUM of 20 seconds, will HELP PROTECT YOU FROM INFECTION and AID IN THE FIGHT AGAINST COVID-19. For this to EFFECTIVELY WORK & have an impact, everyone within the community has to diligently practice good hygiene along with respecting SOCIAL DISTANCING RULES and STAYING AT HOME.

After all, we are all in this together!

Remember to stay informed on the latest developments about COVID-19.

To note: *If you have tested positive for the virus, the use of soap & hand sanitizers will not be of help in protecting you personally, but practicing good hygiene will help in protecting those around you. A common sense approach should be used with regards to water & electrical items for safety reasons and to avoid damage to items - DO NOT USE soapy water on electrical items such as keyboards, remote controls, etc.*

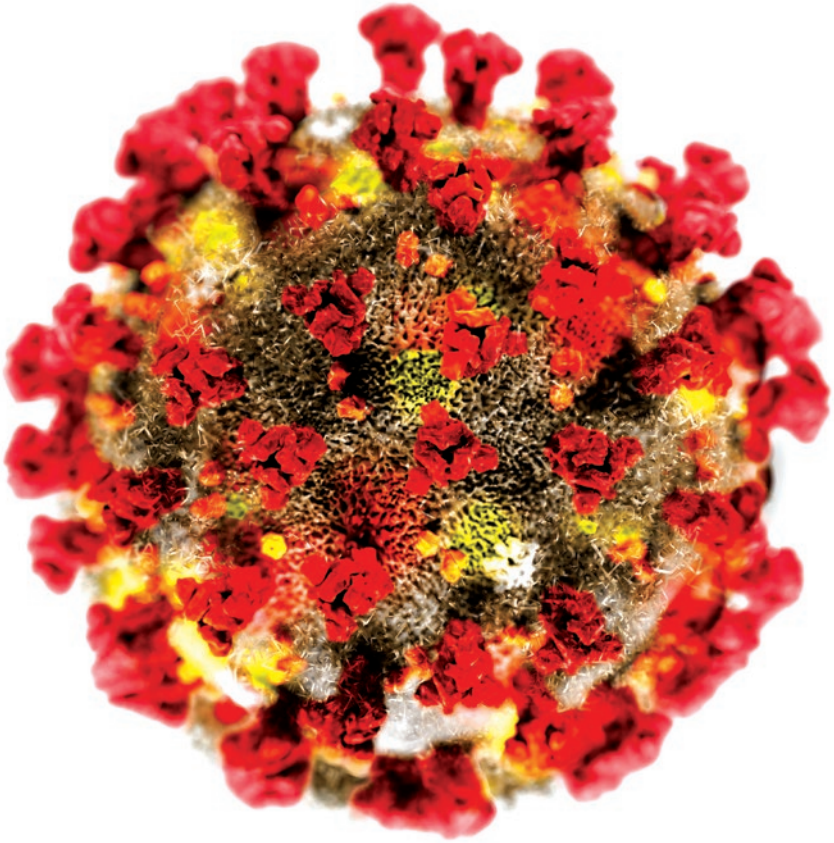
GOOD HYGIENE IS AN EFFECTIVE WAY TO PREVENT VIRAL INFECTION

We know that the virus can be transmitted from person to person through:

- Close contact with an infectious person (including in the 24 hours before they had symptoms);
- Contact with droplets from an infected person's cough or sneeze;
- Touching objects or surfaces (like doorknobs or tables) that have droplets from an infected person, then touching your face

COVID-19 is a new disease. There is no existing immunity in our community. **This means that COVID-19 could spread widely and quickly.**

KNOW THY ENEMY



GENERAL INFORMATION

1. **SARS-CoV-2** is the name of the virus that's spreading; **COVID-19 is the disease it causes.**

2. The virus is capable of being transmitted from person to person through droplets produced by coughs and sneezes from an infected person that travel through the air to settle on skin and other surfaces like doorknobs, mobile phones, park benches, etc.

3. The virus in droplets can remain active on these surfaces for hours, even days, depending on the surface type.

4.. Once exposed, symptoms can take weeks to appear, and with some people, may not show at all. **Those who carry the virus without showing signs of illness, can still spread the disease.**

5. The COVID-19 virus infiltrates the airways of its hosts.
The disease causes respiratory illness (like the flu) with symptoms such as a cough, fever, and in more severe cases, difficulty breathing. You can protect yourself by:

- Frequently washing your hands with soap & water

- Avoiding touching your face

- Practicing social distancing rules during this crisis & avoiding close contact with people (at least 1.5 meters away)

- Practicing stay at home rules & other restrictions, as applies to your situation, during this crisis

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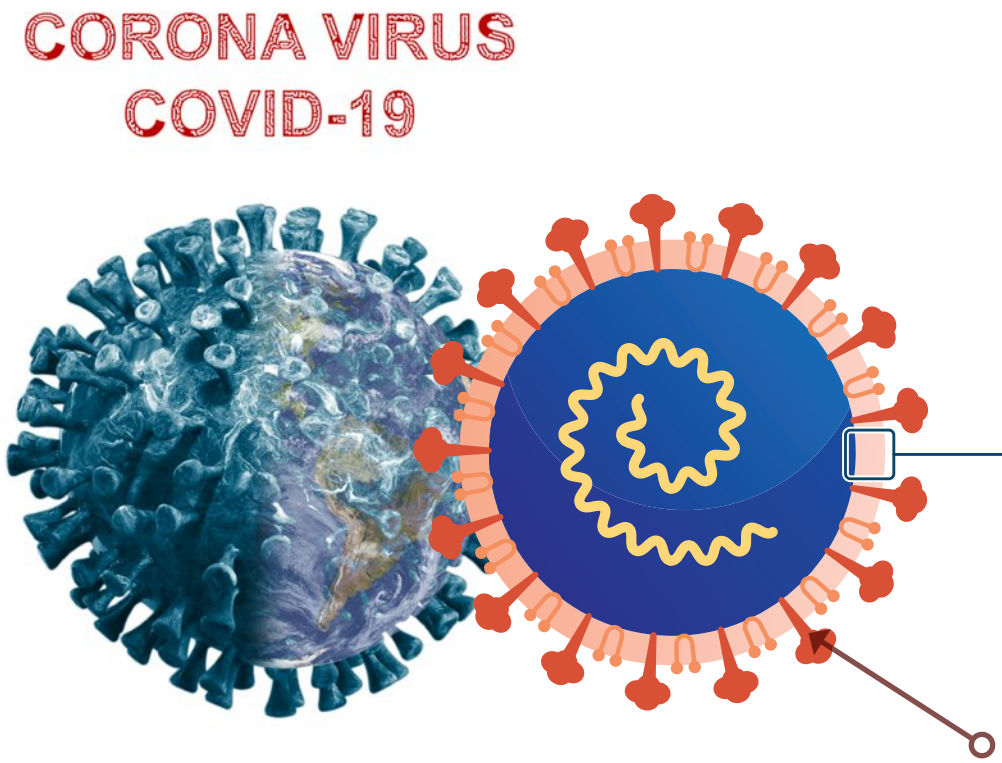
VIRUS STRUCTURE



FATTY LIPID MEMBRANE

Protects the essential proteins inside the virus - if soap molecules come into contact with the virus, it ruptures this fatty membrane killing the virus

SPIKE PROTEIN

Sticks to human cells - fits to the receptors inside our bodies and allows the virus to infect us

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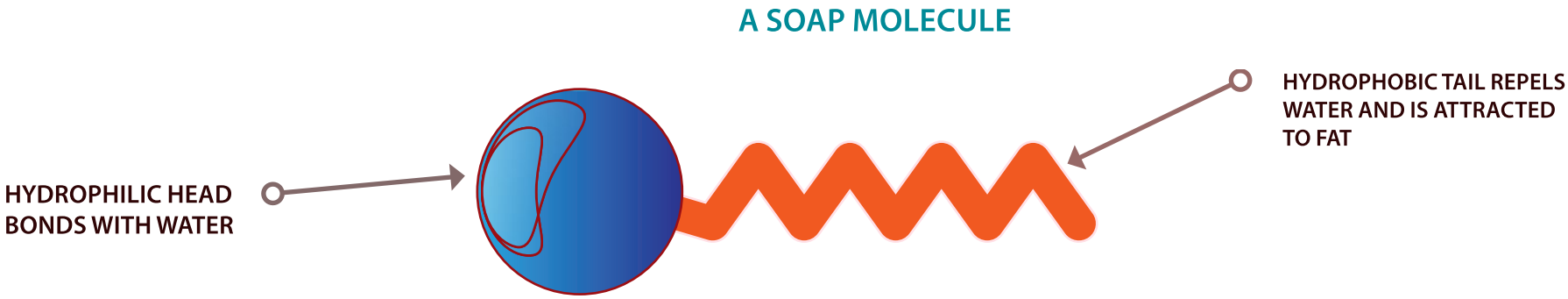
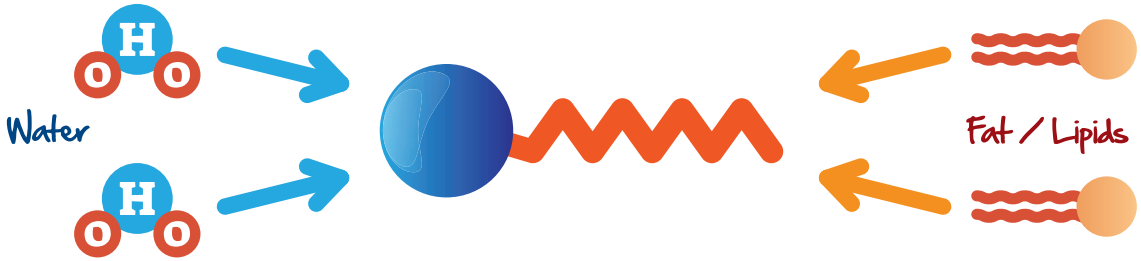
SOAP MOLECULE STRUCTURE

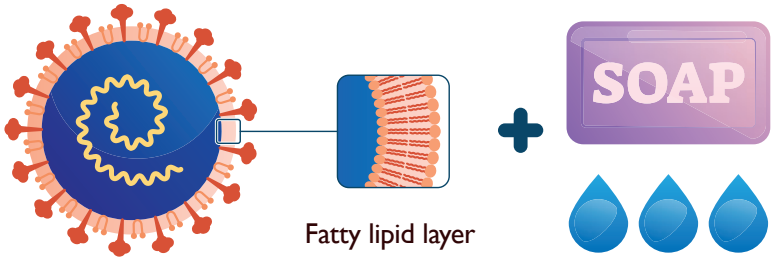
The power of soap as one of our most effective defenses lies in it's unique hybrid structure - these tadpole shaped molecules have polar ends with a hydrophilic head (bonds with water) and a hydrophobic tail (rejects water and bonds with oil & fat).

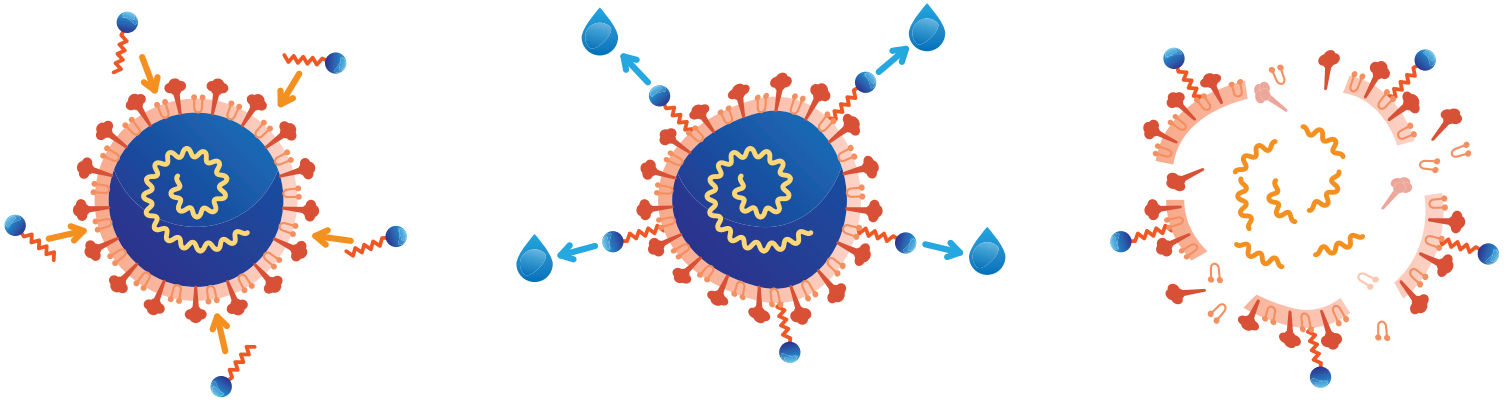


Soap molecules, when suspended in water, alternately float about as solitary units, interact with other molecules in the solution and assemble themselves into little bubbles called micelles, with heads pointing outward and tails tucked inside.



THIS IS HOW
SOAP DESTROYS VIRUSES





When you wash your hands and other surfaces with soap and water, the hydrophobic tails of the soap molecules avoids the water & is drawn to the fatty outer membrane of the virus, prying it open, and rupturing the virus which breaks apart spilling its essential proteins out into the water & rendering the virus useless.

The 20 seconds or more of rubbing, when using soap & water, is vital. This helps soap molecules properly surround virus molecules ensuring that the soap molecule hydrophobic tails pry open the virus lipid layer membrane which destroys the virus.

SOAP IT! CLOTHING, SURFACES AROUND THE HOME, GROCERIES, PERSONAL OBJECTS, VEHICLES & MORE ...

Make up a soap and water solution in a spray bottle for convenient daily disinfection of frequently touched surfaces such as tables, doorknobs, light switches, countertops, sinks, handles, desks, phones, toilets, faucets, etc.

Allocate a bucket to keep a solution of soap water ready to dunk and wash gloves, hats, clothing and other items when you get home from the outside world. Rub items in the soap water for a minimum of 20 seconds to assist the soap molecules to pry open and destroy any virus molecules that may be attached to items.

GOOD HYGIENE CAN PREVENT INFECTION

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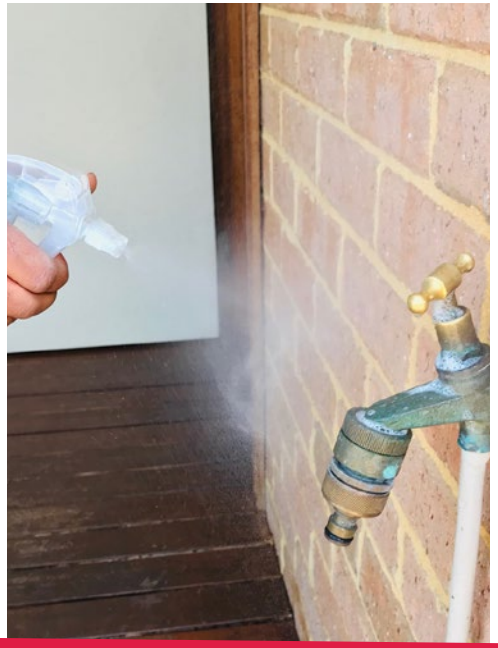
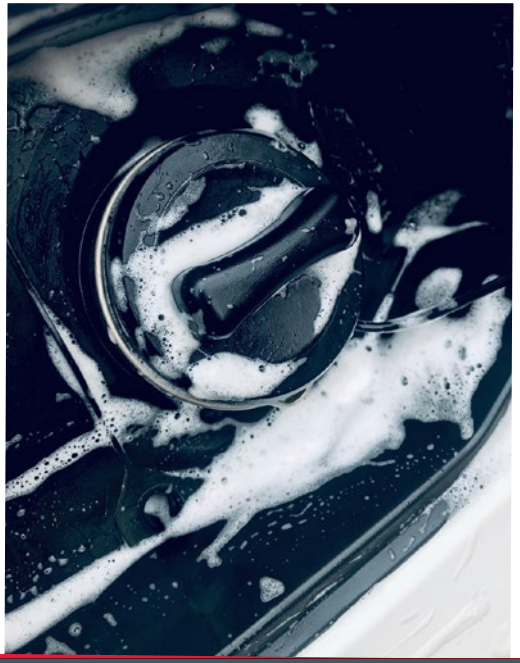
SOAP IT! CLOTHING, SURFACES AROUND THE HOME, GROCERIES, PERSONAL OBJECTS, VEHICLES & MORE ...

REMEMBER TO GIVE THE SOAP MOLECULES THE TIME IT NEEDS TO DESTROY THE VIRUS BEFORE RINSING THE SOAPY WATER OFF





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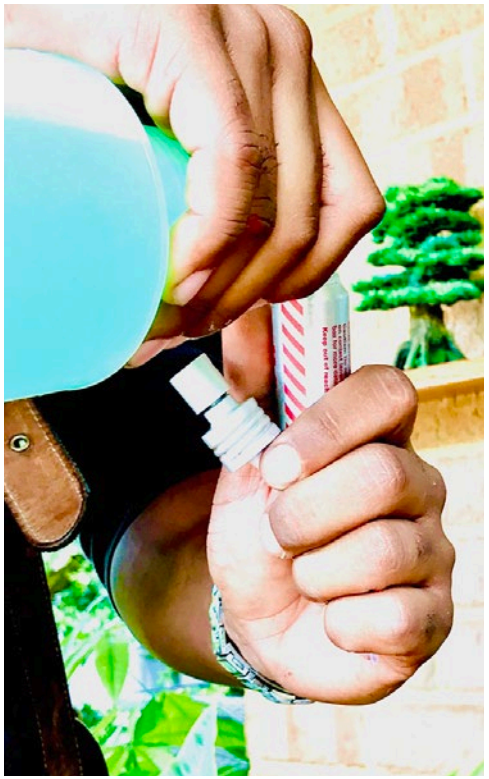

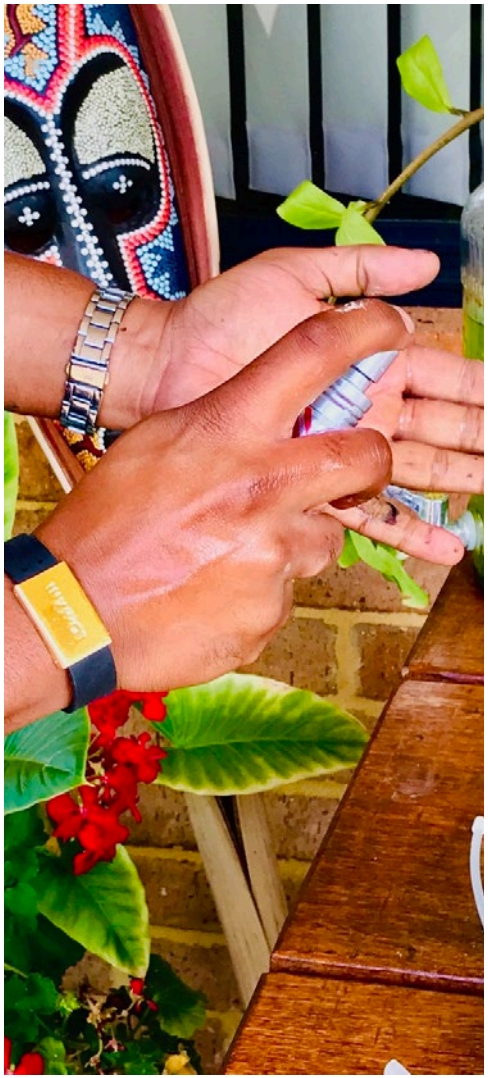

Handy Tip:
Fill a small pocket sized spray bottle with soapy water - this is convenient to carry in your handbag, pocket, car, etc. to ensure that when out and about, you can spray your hands, when needed, with soapy water and rub vigorously.

REMEMBER TO RUB HANDS WITH SOAP SOLUTION FOR AT LEAST TWENTY SECONDS TO GIVE THE SOAP MOLECULES THE TIME IT NEEDS TO DESTROY THE VIRUS

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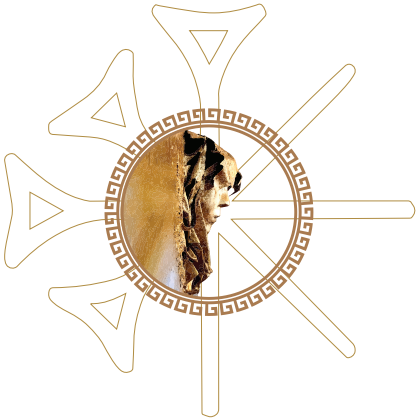
SPECIAL THANKS

A very special thank you to Gesh Govender (BSc Biotechnology) for her valued contribution to this document.

Special thanks also to Priya Krishnamurthy (BSc Biotechnology) for pointing me in the right direction.



Be proactive & prevent potential Coronavirus infection.

We are all in this together!

Please share this info ... Tnx!

DELON GOVENDER

ARTIST & CREATIVE