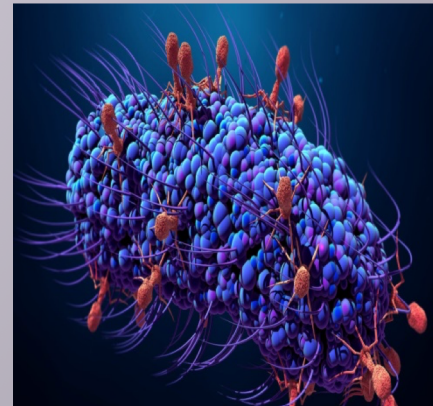
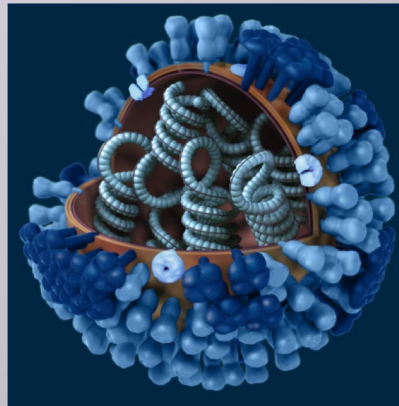
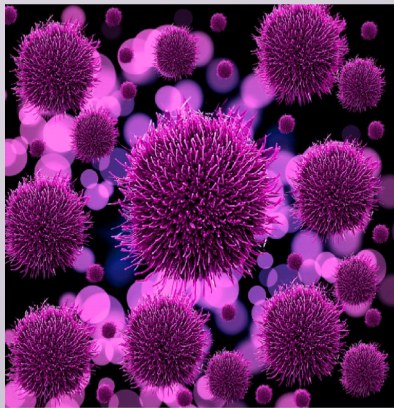


VIRUSES

Pathfinder Honor April 14, 2020



We are Wonderfully Made

I will praise thee: for I am fearfully
and wonderfully made: marvelous
are they works; and *that* my soul
knoweth right well.

Psalms 139:14

What Is A Virus?

- ▣ A microscopic organism that invades living cells in order to reproduce
- ▣ After contacting a host cell, a virus will insert genetic material into the host and take over that host's function
- ▣ They can invade plants, animals and humans
- ▣ Many viruses have no cure
- ▣ Not all viruses are bad

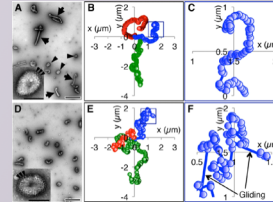
Organisms on the Edge

Are they dead or alive?

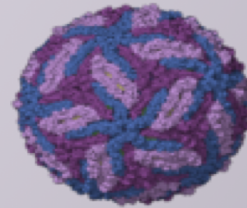
- ▣ When not in a cell a virus is called a virion which is like a lifeless rock
- ▣ They are not part of any life kingdom
- ▣ Made of genetic material DNA or RNA
- ▣ Surrounded by a protective coat of protein and fat
- ▣ They cannot reproduce by themselves
- ▣ They do not produce waste

What Are Different Morphological Shapes?

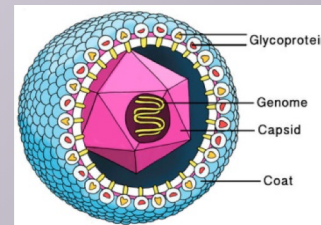
- Filamentous (Helical)



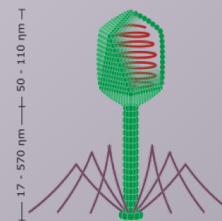
- Isometric (Icosahedral)



- Enveloped



- Head and Tail



What Is A Prion?

(Proteinaceous infectious particle)

- ▣ Proteins That Fold Back on Themselves
- ▣ Leads to Brain Damage (Mad Cow)
- ▣ Is Not a Virus



Childhood Viruses

Chicken Pox



Measles



Two Types of Viruses

▣ Dengue

Leading cause of death in the tropics

400 Million people infected yearly

Transmitted by mosquitoes

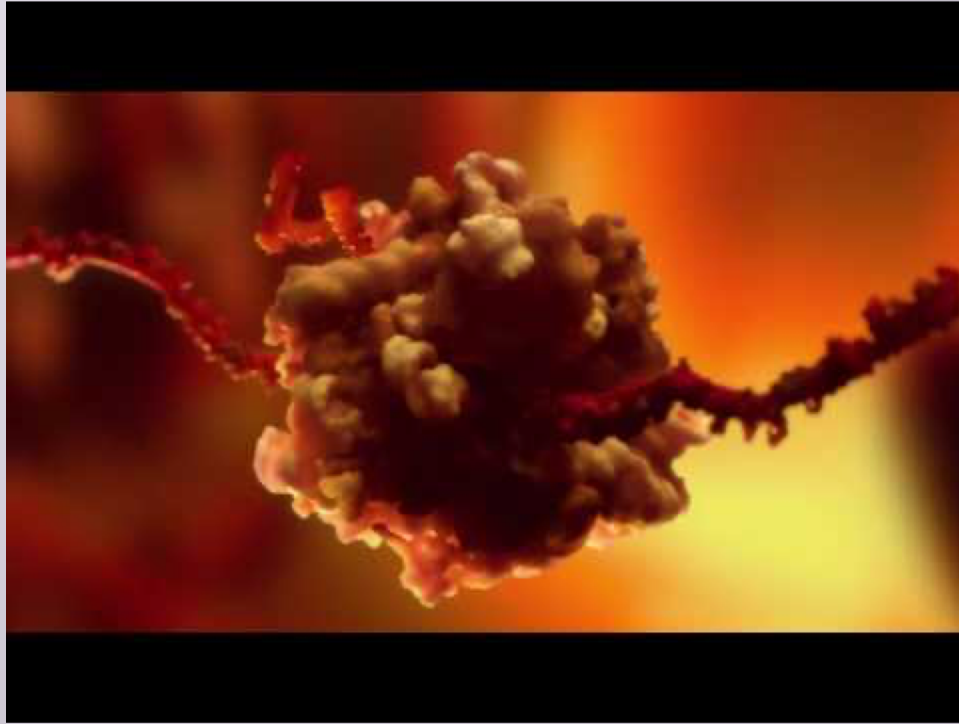
▣ Herpes (The most common is genital herpes)

Spread by sexual contact

Chronic: can last a lifetime

Pain, itching, sores and ulcerations

How Do Viruses Reproduce?



How do Vaccines Work?

- ▣ A vaccine works by training the immune system to recognize and combat pathogens

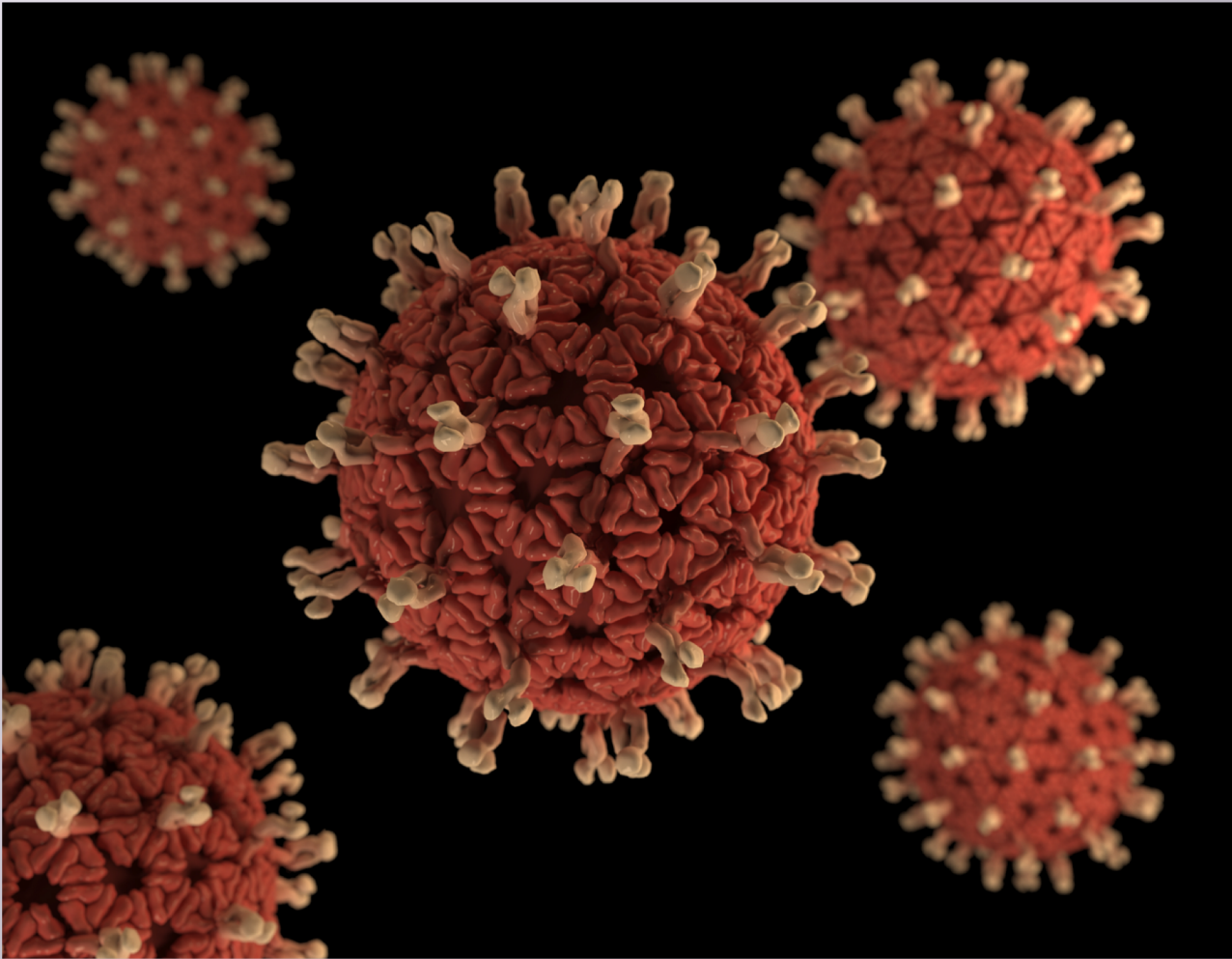


- ▣ Live, Inactivated

The Fight



THE “RONA”



What Is It?

- ▣ The World Health Organization (WHO) defines coronaviruses as a large family of viruses that cause illness ranging from the common cold to more severe diseases. The name comes from the Latin word "corona", which means "**crown**" or "**halo**", and refers to the shape of the virus particle when viewed under a microscope.

Where Did The Virus Come From?

- ▣ Novel viruses come from animals ... the WHO tracks novel viruses in animals, (sometimes for years watching for mutations). Usually these viruses only transfer from animal to animal (pigs in the case of H1N1) (birds in the case of the Spanish flu). But once, one of these animal viruses mutates and starts to transfer from animals to humans ... then it's a problem.

Why Is It So Contagious?

- ▣ Because we have no natural or acquired immunity... the RNA sequencing of the genes inside the virus isn't human, and the human immune system doesn't recognize it so, if our immune system is weak, we cannot fight it off.

How Does The Virus Spread?

- ▣ The disease can spread from person to person through small droplets from the nose or mouth which are spread when a person with COVID-19 coughs or exhales. These droplets land on objects and surfaces around the person. Other people then catch COVID-19 by touching these objects or surfaces, then touching their eyes, nose or mouth.
- ▣ People can also catch COVID-19 if they breathe in droplets from a person with COVID-19 who coughs out or exhales droplets. This is why it is important to stay more than 2 meter (6 feet) away from a person who is sick.

How Do You Know If You Have The Flu Or A Cold

Signs and Symptoms	Cold	Flu
Symptom onset	Gradual	Abrupt
Fever	Rare	Usual
Aches	Slight	Usual
Chills	Uncommon	Fairly Common
Fatigue, Weakness	Sometimes	Usual
Sneezing	Common	Sometimes
Chest Discomfort, Cough	Mild to Moderate	Common
Stuffy Nose	Common	Sometimes
Sore Throat	Common	Sometimes
Headache	Rare	Common

How to Prevent Spreading

▣ Social Distancing



How to Prevent Spreading

- ▣ Wash Your Hands



How To Prevent Spreading

- ▣ Eat Healthy to Stay Healthy



How To Prevent Spreading

- ▣ Only go to the store for essentials



How to Prevent Spreading

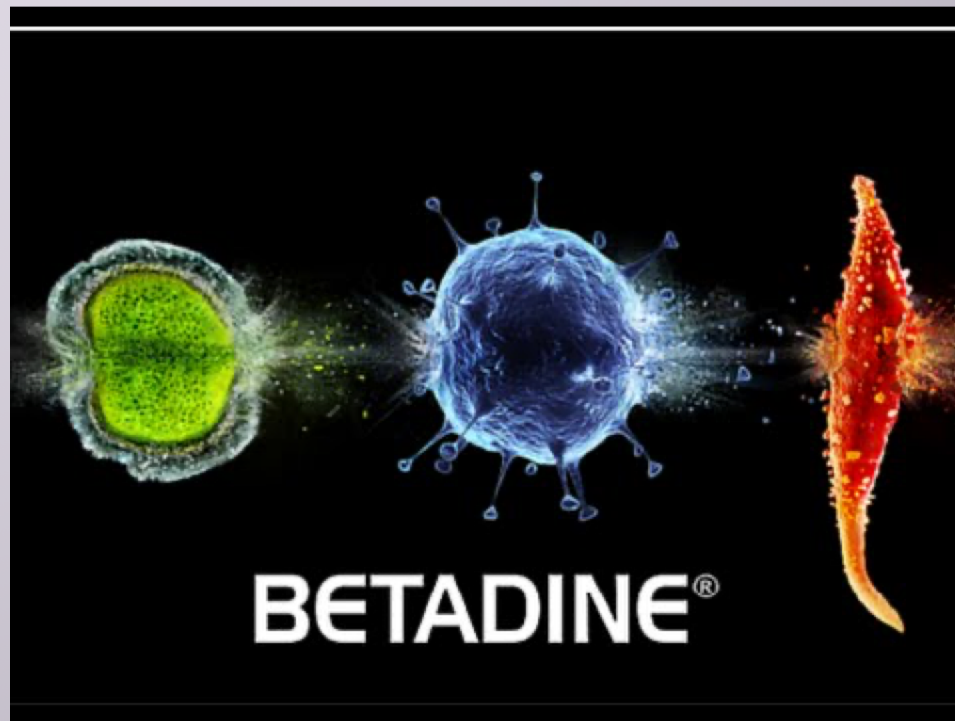
Everyone Up Where You Are and Let's Exercise!

- ▣ Exercise to Stay Healthy



How to Make Disinfectant from Povidone Iodine

- ▣ Povidone Iodine : 10 to 1 (1/2 cup Iodine to 5 cups of distilled water)



How to Make Hand Sanitizer From Aloe Vera Plant

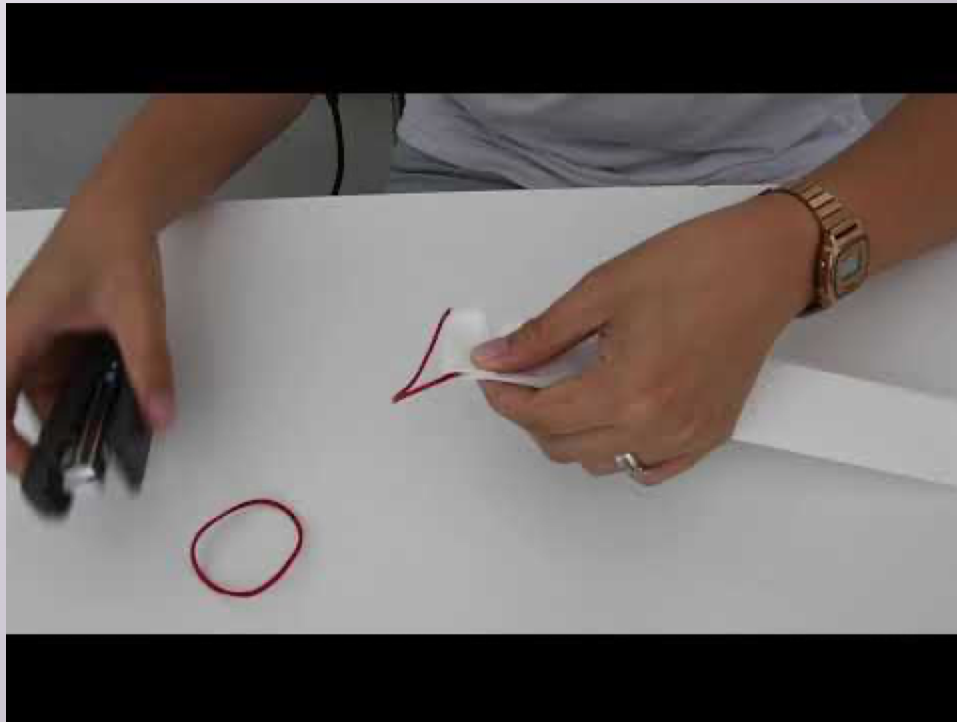


How To Prevent Spreading

- ▣ Wear a Mask



Use 'BLUE' Shop Paper Towels to Make This Mask More Effective



More Masks



Cloth Masks



Make A Mask

Assignment: Make a mask that covers your nose, and mouth. Take a selfie and send it to:

Praise God



Discussion

- ▣ What are your questions about this pandemic?
- ▣ Any fears?
- ▣ What questions do you have?
- ▣ What are ways Pathfinders can help during this time?
- ▣ Any comments you would like to make?